| Ref # | Hits | Search Query | DBs | Default Operator | Plurals | Time Stamp |
|---|---|---|---|---|---|---|
| S1 | 3289 | ordered near2 crystal$7 | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/07/18 17:26 |
| S2 | 3159784 | lead electrode conductor | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/18 20:38 |
| S3 | 1937798 | thinner thickness | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/07/18 17:12 |
| S4 | 27639 | short$5 near5 step | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/07/18 17:12 |
| S5 | 94 | S1 with S2 | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/07/18 17:18 |
| S6 | 8354 | S3 and S4 | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/07/18 17:12 |
| S7 | 4 | S5 and S6 | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/07/18 17:12 |
| S8 | 267 | S1 same S2 | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/07/18 17:19 |
| S9 | 1858 | S1 and S2 | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/07/18 17:19 |

| | | | | | | |
|---|---|---|---|---|---|---|
| S10 | 766141 | Ni nickel | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/07/18 17:19 |
| S11 | 4665734 | al aluminum | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/07/18 17:19 |
| S12 | 1990 | NiAl | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/07/18 17:19 |
| S13 | 1291 | CoCrPt | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/07/18 17:19 |
| S14 | 31 | Co??Cr??Pt?? | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/07/18 17:19 |
| S15 | 142499 | S12 (S10 with S11) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/07/18 17:23 |
| S16 | 26608 | S2 same S15 | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/07/18 17:24 |
| S17 | 3448 | S3 same S16 | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/07/18 17:24 |
| S18 | 6409802 | lower reduced decreased | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/07/18 17:25 |
| S19 | 2293947 | resistance resistivity | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/07/18 17:25 |

| | | | | | | |
|---|---|---|---|---|---|---|
| S20 | 5558972 | higher increased improved | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/07/18 17:25 |
| S21 | 455747 | conductance conductivity | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/07/18 17:25 |
| S22 | 110418 | S18 near2 S19 | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/07/18 17:25 |
| S23 | 34309 | S20 near2 S21 | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/07/18 17:25 |
| S24 | 9673 | S15 and (S22 S23) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/07/18 17:26 |
| S25 | 758 | S15 same (S22 S23) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/07/18 17:26 |
| S26 | 1990 | S15 same (S12) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/07/18 17:26 |
| S27 | 1286150 | crystal$7 | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/07/18 17:26 |
| S28 | 109060 | epitaxial$4 | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/07/18 17:26 |
| S29 | 15389 | lattice? | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/07/18 17:27 |

| | | | | | | |
|---|---|---|---|---|---|---|
| S30 | 990 | (S27 S28 S29) and S26 | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/07/18 17:56 |
| S31 | 99421 | MR GMR TJMR TMR Svmr sv magnetoresistive | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/07/18 17:28 |
| S32 | 165541 | (magnetic adj (storage recording playback medium)) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/07/18 17:28 |
| S33 | 16322 | read adj head | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/07/18 17:28 |
| S34 | 259545 | transducer | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/07/18 17:28 |
| S35 | 434 | S30 and (S31 S32 S33 S34) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/07/18 17:28 |
| S36 | 178619 | ("360"/$ "369"/$ 29/603$ "720"/$).ccls. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/07/18 17:29 |
| S37 | 105 | S36 and S30 | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/07/18 17:29 |
| S38 | 105 | S36 and S37 | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/07/18 17:29 |
| S39 | 2 | ("6417999").URPN. | USPAT | OR | OFF | 2005/07/18 17:43 |
| S40 | 7 | ("5668686" \| "5923503" \| "6111722" \| "6128167" \| "6185078" \| "6226158" \| "6278592").PN. | US-PGPUB; USPAT; USOCR | OR | OFF | 2005/07/18 17:43 |

| | | | | | | |
|---|---|---|---|---|---|---|
| S41 | 4438 | (S27 S28 S29) near2 (match matched matches matching) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/07/18 17:56 |
| S42 | 2575355 | hard longitudinal barkhausen bias biasing | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/07/18 17:56 |
| S43 | 22 | S41 same S2 same S42 | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/07/18 17:57 |
| S44 | 2 | ("6632474").URPN. | USPAT | OR | OFF | 2005/07/18 18:23 |
| S45 | 6 | ("6417999" "20010033949" "6219207" "6185081" "6077603" "5993956").did. | US-PGPUB; USPAT | OR | OFF | 2005/07/18 20:38 |
| S46 | 3207 | NiAl AlNi | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2005/07/18 20:38 |
| S47 | 3159784 | lead electrode conductor | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/18 20:38 |
| S48 | 1071 | S46 and S47 | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/18 20:38 |
| S49 | 45 | S46 and S47 | EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/18 20:39 |
| S50 | 120 | S46 same S47 | US-PGPUB; USPAT | OR | ON | 2005/07/18 20:39 |
| S51 | 72 | S46 with S47 | US-PGPUB; USPAT | OR | ON | 2005/07/18 22:18 |
| S52 | 255 | (360/322).ccls. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/18 22:18 |

| | | | | | | |
|---|---|---|---|---|---|---|
| S53 | 530 | (360/324.12).ccls. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/18 22:18 |
| S54 | 353 | (360/324.1).ccls. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/18 22:19 |
| S55 | 193 | (360/324).ccls. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/18 22:19 |
| S56 | 259 | (360/313).ccls. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/18 22:19 |
| S57 | 1469 | (360/110).ccls. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/18 22:19 |
| S58 | 2895 | S52 S53 S54 S55 S56 S57 | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/18 22:19 |
| S59 | 1426 | S58 not S57 | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/07/18 22:19 |

Due to system maintenance, DataStar will not be available on Saturday from 4:00 a.m. until 10:00 a.m. GMT + 2. Thank you for your understan

UNITED STATES PATENT AND TRADEMARK OFFICE

Dialog DataStar

options logoff feedback help

sira

databases easy search

# Advanced Search: INSPEC - 1969 to date (INZZ)

limit

Search history:

| No. | Database | Search term | Info added since | Results | |
|---|---|---|---|---|---|
| 1 | INZZ | magnetoresistive AND read AND (head OR transducer) | unrestricted | 380 | show titles |
| 2 | INZZ | (electrodes OR leads OR conductors) AND (crystal OR crystallography OR crystallographic OR epitaxial OR epitaxially OR epitaxy) | unrestricted | 24055 | show titles |
| 3 | INZZ | (electrodes OR leads OR conductors) AND (crystal OR crystallography OR crystallographic OR epitaxial OR epitaxially OR epitaxy) AND magnetoresistive AND read AND (head OR transducer) | unrestricted | 1 | show titles |
| 4 | INZZ | (electrodes OR leads OR conductors) AND (AlNi OR NiAl) AND magnetoresistive AND read AND (head OR transducer) | unrestricted | 0 | - |
| 5 | INZZ | (electrodes OR leads OR conductors) AND B2 AND magnetoresistive AND read AND (head OR transducer) | unrestricted | 0 | - |

hide | delete all search steps... | delete individual search steps...

Enter your search term(s): Search tips

whole document

IEEExplore search:

((electrodes and  (epitaxial or crystal) and (alni or

nial))<in>metadata)
(((conductor or lead or electrode) and  (epitaxial or crystal) and
(alni

or nial))<in>metadata)
((electrodes and  (epitaxial or crystal))<in>metadata)
((electrodes and  (epitaxial or crystal) and (read or head or
transducer

or mr or gmr or tmr))<in>metadata)
(((electrodes or leads or conductors) and  (epitaxial or crystal) and
(

hard bias' or permanent or pm) and (read or head or transducer or mr
or

gmr or tmr) and (conductivity or resistivity))<in>metadata)
((electrodes and b2 and (epitaxial or crystal) and (alni or

nial))<in>metadata)

ProQuest Direct Computing search:

magnetoresistive and read and (head or transducer) and (electrodes or

leads or conductors) and (crystal or crystallography or
crystallographic

or epitaxial or epitaxially or epitaxy)
magnetoresistive and read and (head or transducer) and (electrodes or

leads or conductors)

INSPEC search:
magnetoresistive AND read AND (head OR transducer)
(electrodes OR leads OR conductors) AND (crystal OR crystallography OR

crystallographic OR epitaxial OR epitaxially OR epitaxy)
(electrodes OR leads OR conductors) AND (crystal OR crystallography OR

crystallographic OR epitaxial OR epitaxially OR epitaxy) and
magnetoresistive AND read AND (head OR transducer)
(electrodes OR leads OR conductors) AND (AlNi OR NiAl) AND

magnetoresistive AND read AND (head OR transducer)
(electrodes OR leads OR conductors) AND B2 AND magnetoresistive AND

read

AND (head OR transducer)

(7a)

Access DB# 15971

# SEARCH REQUEST FORM

## Scientific and Technical Information Center

Requester's Full Name Julie Anne Watko Examiner #: 77602 Date: 07/18/2005
Art Unit: 2653 Phone Number 27597 Serial Number: 10631338
Location: 8A75 Results Format Preferred (circle): PAPER DISK E-MAIL

**If more than one search is submitted, please prioritize searches in order of need.**

*******************************************************************************

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Defin terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, p claims, and abstract.

Title of Invention: Electrical Lead Structures for MR Sensors for Magnetic Head
Magneto-Resistive

Inventors (please provide full names): Michael PARKER
Mustafa PINARBASI

Earliest Priority Filing Date: 

*For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate seri number.

a (lead / electrode / conductor / sense conductor / electrical contact) for a (MR / magneto resistive / GMR / CIP) (read head / transducer)

made of ordered crystalline (B2 structure NiAl / AlNi / intermetallic / $Ni_{45}Al_{60}$) or (CuAu / $Cu_3Au$) or ($Ni_3Al$ / $Fe_3Al$) or directly on top of a (hard bias / permanent magnet / PM layer)

*******************************************************************************

STAFF USE ONLY

| | | | |
|---|---|---|---|
| Searcher: Patel | Type of Search | Vendors and cost where applicable | |
| Searcher Phone #: 2-3537 | Sequence (#) ______ | STN ______ | |
| Searcher Location: KNX-8B68 | AA Sequence (#) ______ | Dialog ✓ | |
| Date Searcher Picked Up: 2:30p.M / 07/28 | Structure (#) ______ | Questel/Orbit ______ | |
| Date Completed: 2:30p.m / 07/29 | Bibliographic ✓ | Dr.Link ______ | |
| Searcher Prep & Review Time: 120 | Litigation ______ | Lexis/Nexis ______ | |
| Clerical Prep Time: ______ | Fulltext ✓ | Sequence Systems ______ | |
| Online Time: 180 | Patent Family ______ | WWW/Internet ✓ | |
| | Other ______ | Other (specify) ______ | |

```
File 344:Chinese Patents Abs Aug 1985-2005/May
         (c) 2005 European Patent Office
File 347:JAPIO Nov 1976-2005/Feb(Updated 050606)
         (c) 2005 JPO & JAPIO
File 350:Derwent WPIX 1963-2005/UD,UM &UP=200548
         (c) 2005  Thomson Derwent

Set     Items   Description
S1    1539118   LEAD OR ELECTRODE?? OR CONDUCTOR?? OR ELECTRICAL(2N)CONTAC-
             T??
S2      20643   MR OR MAGNETO(2N)RESIST????? OR GMR OR CIP
S3     131115   READ???(2N)HEAD?? OR TRANSDUCER??
S4       2395   CUAU OR COPPER()GOLD?? OR COPPERGOLD?? OR CU()AU
S5       6034   NI()AL OR NICKELALUMINIUM OR NICKELALUMINUM OR NICKEL(N)(A-
             LUMINIUM?? OR ALUMINUM??)
S6       6558   FE()AL OR FEAL OR (IRON?? OR FERROUS??)()(ALUMINIUM?? OR A-
             LUMINUM) OR NIAL OR ALNI
S7      11348   B2(2N)STRUCTUR?? OR INTERMETALLIC?? OR INTER()METALLIC??
S8        498   ORDER???(2N)(CRYSTALLIN?? OR CRYSTALIN?? OR LATTIC?? OR EP-
             ITAX?????)
S9        825   (HARD(3N)BIAS?? OR PERMANENT??(2N)MAGNET?? OR PM)(3N)LAYER-
             ??
S10      2493   EPITAX?????(7N)(MATCH??? OR SEED??? OR SELECT????)
S11      1307   S10(10N)LAYER??
S12      4584   LATTIC??(2N)CONSTANT??
S13       417   AU=(PARKER, M? OR PARKER M? OR PINARBASI M? OR PINARBASI, -
             M?)
S14         0   S1 AND S2 AND S3 AND S4 AND S5 AND S6 AND S7 AND S8 AND S9
S15         1   S1 AND S2 AND S3 AND (S4 OR S5 OR S6 OR S7 OR S8) AND S9
S16         3   S1 AND S2 AND S3 AND (S4 OR S5 OR S6 OR S7 OR S8)
S17         2   S16 NOT S15
S18     27180   S2 OR MAGNETORESIST?
S19        25   S1 AND S18 AND S3 AND S9
S20         1   S19 AND S8
S21         0   S20 NOT S15
S22         1   S19 AND S10
S23         0   S22 NOT S15
S24         0   S19 AND S12
S25      2691   S1 AND S18 AND LAYER?
S26        28   S25 AND (S4 OR S5 OR S6 OR S7 OR S8)
S27        16   S26 AND HEAD?
S28        15   S27 NOT S15
S29        12   S25 AND (S10 OR S12)
S30        10   S29 NOT (S15 OR S28)
S31        53   S13 AND S1
S32        23   S31 AND (S2 OR S9)
S33         1   S32 AND (S8 OR S10 OR S12)
S34         0   S33 NOT S15
?
```

**15/3,K/1 (Item 1 from file: 350)**
DIALOG(R)File 350:Derwent WPIX
(c) 2005 Thomson Derwent. All rts. reserv.

016876954 **Image available**
WPI Acc No: 2005-201237/200521
XRAM Acc No: C05-064235
XRPX Acc No: N05-165565

**Magnetic head for hard disk drives, comprises** magneto resistive **sensor having sensor** layers , hard bias / lead **structure with electrical** lead **layer**

Patent Assignee: PARKER M A (PARK-I); PINARBASI M M (PINA-I)
Inventor: PARKER M A; PINARBASI M M
Number of Countries: 001 Number of Patents: 001
Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week | |
|---|---|---|---|---|---|---|---|
| US 20050024795 | A1 | 20050203 | US 2003631338 | A | 20030730 | 200521 | B |

Priority Applications (No Type Date): US 2003631338 A 20030730
Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|---|---|---|---|---|---|
| US 20050024795 | A1 | | 8 | G11B-005/39 | |

**Magnetic head for hard disk drives, comprises** magneto resistive **sensor having sensor** layers , hard bias / lead **structure with electrical** lead **layer**

Abstract (Basic):

... Magnetic head comprises **magneto resistive** sensor. The **magneto resistive** sensor comprises sensor **layers** , **hard bias** / **lead** structure. The **hard bias** / **lead** structure includes **hard bias layer** (92) with crystalline structure and electrical **lead layer** . The **hard bias** / **lead** structure is at sensor layers side area. The electrical **lead** layer has **ordered crystalline** structure **epitaxially** matched to crystalline structure of **hard bias layer** .

... a) hard disk drive including magnetic head with **magneto resistive** sensor comprising sensor **layers** , and **hard bias** / **lead** structure;and...

...b) fabricating magnetic head comprising fabricating sensor **layer** on substrate, fabricating **hard bias** / **lead** structure proximate end portions of the sensor **layers** including fabricating **hard bias layer** , and electrical **lead layer** on **hard bias layer** . The **lead layer** is made to have an **ordered crystalline** structure...

...carried compared to the previous rhodium or tantalum leads. It is thinner, so reduced electrical **lead** step height, thus reducing occurrence of electrical shorts in the making of magnetic heads leading ...

...improved yield to manufacturing process. It can be made without the need of the electrical **lead** seed layer (48) or deposition of seed layer...

...The figure shows a side cross sectional view of the **read head** portion of magnetic head...

... **Hard bias layer** (88...

... **Hard bias layer** (92

Technology Focus:

... Preferred Components: The bias layer is made of cobalt alloy. The **lead** layer has B2 and comprises **nickel aluminum** containing nickel (45-60, preferably 50 %). The electrical **lead** layer **ordered crystalline structure** is **B2** , L10, L11, L12 or DO3. The electrical **lead** layer can also be made cuprous gold, cupric gold, **nickel aluminum** , or ferric aluminum. Preferred Methods: The electrical **lead** layer is made by ion beam deposition.

...Title Terms: **LEAD** ;

**17/3,K/1 (Item 1 from file: 350)**
DIALOG(R)File 350:Derwent WPIX
(c) 2005 Thomson Derwent. All rts. reserv.

013599136 **Image available**
WPI Acc No: 2001-083343/200110
Related WPI Acc No: 2000-119134; 2000-682182
XRAM Acc No: C01-024343
XRPX Acc No: N01-063673

**Thin film magnetic head comprises insulating layer on one side of lower and upper gap layers containing** nickel - aluminum **group alloy of preset composition**

Patent Assignee: ALPS ELECTRIC CO LTD (ALPS )
Number of Countries: 001 Number of Patents: 001
Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week | |
|---|---|---|---|---|---|---|---|
| JP 2000020924 | A | 20000121 | JP 9937867 | A | 19990216 | 200110 | B |

Priority Applications (No Type Date): JP 98121425 A 19980430
Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|---|---|---|---|---|---|
| JP 2000020924 | A | | 13 | G11B-005/39 | |

**... magnetic head comprises insulating layer on one side of lower and upper gap layers containing** nickel - aluminum **group alloy of preset composition**

Abstract (Basic):
... Magnetic head has element layer (45) with **MR** effect on lower gap layer (54) on lower shield layer (53). An **electrode** layer (48) imparts detection electric current in element layer (45). Upper gap layer (56) is provided on **electrode** layer (48), via upper shield layer (57). Insulating layer containing **Ni - Al** group alloy with element chosen from Si, B, Cr, Ti, Ta or Nb, is provided...
... For magnetic heads such as anisotropic magnetoresistance (AMR) and giant magnetoresistance ( **GMR** ) magnetic heads...

...anisotropy field is impressed in the thin film without production of Barkhausen noise. The magnetic **head** excels in **read** -out property, thermal conductivity and corrosion resistance in alkali solution. A reliable product is provided...

...The figure shows the sectional view of **magneto - resistance** head...

... **Electrode** layer (48

**17/3,K/2 (Item 2 from file: 350)**
DIALOG(R)File 350:Derwent WPIX
(c) 2005 Thomson Derwent. All rts. reserv.

012943445 **Image available**
WPI Acc No: 2000-115298/200010
XRPX Acc No: N00-087183

**Multilayered structure for large** magneto resistive **sensor**

Patent Assignee: US DEPT ENERGY (USAT )
Inventor: CEGLIO N M; HAWRYLUK A M; STEARNS D G; VERNON S P
Number of Countries: 001 Number of Patents: 001
Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|---|---|---|---|---|---|---|

US 6002553 A 19991214 US 94202991 A 19940228 200010 B

Priority Applications (No Type Date): US 94202991 A 19940228
Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|---|---|---|---|---|---|
| US 6002553 | A | | 6 | G11B-005/39 | |

**Multilayered structure for large** magneto resistive **sensor**

Abstract (Basic):
... coupling between adjacent magnetic material is less than magneto static coupling. A pair of spaced **electrodes** are placed on single later surfaces (16,18) or placed in opposed edge face (20...
... and W' is between 0.1-5 microns. The non-magnetic layers are formed of **copper** , **gold** , silver and magnetic layer is formed of iron, cobalt, nickel or magnetic alloy. The current...

...made to flow in current perpendicular to plane (CPP) mode or in current in plane ( **CIP** ) mode...

...For large **magneto resistive** sensor used in magnetic **read** /write **heads** , for high density magnetic information storage and retrieval...

...Enables to achieve strong **magneto resistive** response with high sensitivity. Provides opportunity for high spatial resolution of local fields, and innovative...

...The figure shows perspective view of giant **magneto resistive** sensor ...

**28/3,K/1     (Item 1 from file: 350)**
DIALOG(R)File 350:Derwent WPIX
(c) 2005 Thomson Derwent. All rts. reserv.

017108416     **Image available**
WPI Acc No: 2005-432759/200544
XRAM Acc No: C05-132931
XRPX Acc No: N05-350974

Magneto resistive **effect mechanism, e.g. magnetic** head **for magnetic reproducing apparatus, has pinned** layer , **free** layer , **metal** layer , **resistance increasing** layer , **spin filter** layer , **and pair of** electrodes

Patent Assignee: TOSHIBA KK (TOKE )
Inventor: FUKUZAWA H; HASHIMOTO S; IWASAKI H; YUASA H
Number of Countries: 002 Number of Patents: 002
Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week | |
|---|---|---|---|---|---|---|---|
| US 20050111145 | A1 | 20050526 | US 2004954545 | A | 20041001 | 200544 | B |
| JP 2005109378 | A | 20050421 | JP 2003344030 | A | 20031002 | 200544 | |

Priority Applications (No Type Date): JP 2003344030 A 20031002
Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|---|---|---|---|---|---|
| US 20050111145 | A1 | | 35 | G11B-005/33 | |
| JP 2005109378 | A | | 26 | H01L-043/08 | |

Magneto resistive **effect mechanism, e.g. magnetic** head **for magnetic reproducing apparatus, has** pinned layer , **free** layer , **metal** layer , **resistance increasing** layer , **spin filter** layer , **and pair of** electrodes

Abstract (Basic):

... A **magneto resistive** effect mechanism comprises magnetization pinned **layer** , magnetization free **layer** , nonmagnetic metal **layer** , resistance increasing **layer** , spin filter **layer** , and pair of **electrodes** . The pinned **layer** includes magnetic-material film where magnetization direction is pinned in one direction. The free **layer** includes magnetic-material film where magnetization direction changes in response to external magnetic field.

... A **magneto resistive** effect mechanism comprises magnetization pinned **layer** (P1, P2), magnetization free **layer** , nonmagnetic metal **layer** (M1, M2), resistance increasing **layer** (RL), spin filter **layer** (SF), and pair of **electrodes** . The pinned **layer** includes magnetic-material film where magnetization direction is pinned in one direction. The free **layer** includes magnetic-material film where magnetization direction changes in response to external magnetic field. The non-magnetic metal **layer** is between the magnetization pinned **layer** and magnetization free **layer** . The increasing **layer** includes insulation portion and conductive portion (RLa-b). The conductive portion electrically connects the film gases of resistance increasing **layer** . The increasing **layer** is in pinned **layer** , free **layer** , and metal **layer** . The filter **layer** is adjacent to the free **layer** . The filter **layer** is 5-20 nm thick. The free **layer** is between the filter **layer** and metal **layer** . The pair of **electrodes** is between the pinned **layer** , free **layer** , non-magnetic **layer** , increasing **layer** , and spin filter **layer** as disposed. The current flowing between the pair of **electrodes** flows in a direction perpendicular to the film faces of the pinned **layer** , free **layer** , metal **layer** , increasing **layer** , and filter **layer** .

...

...Used as magnetic **head** useful in making magnetic reproducing apparatus for reading informed magnetically recorded on magnetic recording medium ...

...or restores the crystal orientation. It provides high resistance of high absolute value and large **magneto resistive** effect. It has high S/N ratio even at high recording density, and large output...

...Lower and upper **electrodes** (LE, UE...
...Metal **layer** (M1, M2...

...Pinned **layer** (P1, P2...

...Increasing **layer** (R1a...

...Increasing **layer** (RL...

...Spin filter **layer** (SF
Technology Focus:
... Preferred Components: The magnetic material film of the pinned **layer** includes ferromagnetic material. The ohmic contacts are formed between the insulation increasing **layer** and **layers** adjacent to it. The insulation portion of resistance increasing **layer** includes oxide, nitride, or fluoride of aluminum, silicon, titanium, vanadium, chromium, manganese, iron, cobalt, nickel, copper, zirconium, yttrium, zinc, niobium, hafnium, tantalum, or tungsten. The increasing **layer** is in pinned **layer** and free **layer** . The conductive portion includes ferromagnetic material or non-magnetic material. The resistance increasing **layer** is at least in the metal **layer** . The mechanism includes protecting **layer** adjacent to the filter **layer** . The protecting **layer** includes tantalum, titanium, and/or ruthenium. The spin filter **layer** is between the protecting **layer** and free **layer** . The filter **layer** includes (nickel, iron) chromium alloy of structure (Ni1-xRex)1-yCry...

...the protecting **layer** includes tantalum. The spin filter **layer** includes **copper** , **gold** , silver, platinum, chromium, tantalum, zinc, zirconium, niobium, platinum, rhodium, ruthenium, molybdenum, hafnium, and (nickel, iron) chromium alloy. The protecting **layer** includes titanium, and/or ruthenium. The spin filter **layer** includes laminating structure of copper and ruthenium...

...Preferred Properties: The spin filter **layer** is 10-20 nm thick.
...Title Terms: **HEAD** ;

**28/3,K/2 (Item 2 from file: 350)**
DIALOG(R)File 350:Derwent WPIX
(c) 2005 Thomson Derwent. All rts. reserv.

017005599 **Image available**
WPI Acc No: 2005-329916/200534
XRAM Acc No: C05-102767
XRPX Acc No: N05-269672

**Magnetic recording/reproducing apparatus comprises** magnetoresistive head **having** magnetoresistive **film, and preamplifier that supplies sense current to the** magnetoresistive head **in constant-current driving**

Patent Assignee: TOSHIBA KK (TOKE )
Inventor: FUNAYAMA T; TAKAGISHI M; TANAKA Y

Number of Countries: 004 Number of Patents: 004
Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week | |
|---|---|---|---|---|---|---|---|
| US 20050063104 | A1 | 20050324 | US 2004932338 | A | 20040902 | 200534 | B |
| JP 2005078750 | A | 20050324 | JP 2003310275 | A | 20030902 | 200534 | |
| SG 109572 | A1 | 20050330 | SG 20044674 | A | 20040820 | 200534 | |
| CN 1591581 | A | 20050309 | CN 200468683 | A | 20040902 | 200542 | |

Priority Applications (No Type Date): JP 2003310275 A 20030902
Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|---|---|---|---|---|---|
| US 20050063104 | A1 | | 12 | G11B-005/33 | |
| JP 2005078750 | A | | 10 | G11B-005/02 | |
| SG 109572 | A1 | | | G11B-005/33 | |
| CN 1591581 | A | | | G11B-005/39 | |

**Magnetic recording/reproducing apparatus comprises** magnetoresistive head **having** magnetoresistive **film, and preamplifier that supplies sense current to the** magnetoresistive head **in constant-current driving**

Abstract (Basic):
... A magnetic recording/reproducing apparatus comprises a **magnetoresistive head** having a **magnetoresistive** film through which a current is flowed in a direction substantially perpendicular to a film plane and a pair of magnetic shields disposed to sandwich the **magnetoresistive** film; and a preamplifier which supplies a sense current to the **magnetoresistive head** in constant-current driving.
... The drawing shows a diagram of a **magnetoresistive** film and a preamplifier in constant-current driving connected to the **magnetoresistive** film...

...Anti-ferromagnetic **layer** (6...
...Magnetization pinned **layer** (4...

...High resistance spacer **layer** (5...

...Magnetization free **layer** (6...

...Protective **layer** (7...

...Intervening insulating **layers** (9...

...Biasing ferromagnetic **layers** (10...
Technology Focus:
... Preferred Components: The **magnetoresistive** film has a stacked structure of a magnetization pinned **layer** , a high-resistance spacer **layer** including a high-resistance matrix and conductive regions formed in the high-resistance matrix, and a magnetization free **layer** . The high-resistance spacer **layer** is a tunnel barrier **layer** .
...

...apparatus further comprises a temperature measuring element measuring a temperature of the high-resistance spacer **layer** included in the **magnetoresistive** film; and a controller controlling a value of the sense current supplied by the preamplifier based on data of the temperature measuring element. The temperature-measuring element includes a conductive **layer** of a first metal stacked on the high-resistance spacer **layer** of the **magnetoresistive** film and a **lead** of a second metal, the conductive **layer** and the **lead** forming

a junction to generate thermo-electromotive force...

...the conductive regions is less than or equal to10% of an area of the spacer **layer** .

...

...metal oxide, metal nitride, or metal carbide. The conductive regions contain a metal such as **copper** , **gold** , or silver...

...metal oxide, metal nitride, or metal carbide. The conductive regions contain a metal such as **copper** , **gold** , or silver.

...Title Terms: **MAGNETORESISTIVE** ;

**28/3,K/3 (Item 3 from file: 350)**

DIALOG(R)File 350:Derwent WPIX

(c) 2005 Thomson Derwent. All rts. reserv.

016957927 **Image available**
WPI Acc No: 2005-282236/200529
Related WPI Acc No: 2003-057806; 2005-282237; 2005-393948
XRAM Acc No: C05-087758
XRPX Acc No: N05-231195

Magnetoresistive head **for magnetic recording-reproducing apparatus, has** magnetoresistive **film including magnetization free** layers **, and** electrodes **that allows current to flow in direction perpendicular to plane of** magnetoresistive **film**

Patent Assignee: KAMIGUCHI Y (KAMI-I); TAKAGISHI M (TAKA-I); YOSHIKAWA M (YOSH-I); YUASA H (YUAS-I)
Inventor: KAMIGUCHI Y; TAKAGISHI M; YOSHIKAWA M; YUASA H
Number of Countries: 001 Number of Patents: 001
Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week | |
|---|---|---|---|---|---|---|---|
| US 20050052794 | A1 | 20050310 | US 200259153 | A | 20020131 | 200529 | B |
| | | | US 2004968979 | A | 20041021 | | |

Priority Applications (No Type Date): JP 200125734 A 20010201
Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|---|---|---|---|---|---|
| US 20050052794 | A1 | | 20 | G11B-005/33 | Div ex application US 200259153 |

Magnetoresistive head **for magnetic recording-reproducing apparatus, has** magnetoresistive **film including magnetization free** layers **, and** electrodes **that allows current to flow in direction perpendicular to plane of** magnetoresistive **film**

Abstract (Basic):

... A **magnetoresistive head** , comprises **magnetoresistive** film including magnetization free **layers** (23, 25), intermediate **layer** sandwiched between magnetization free **layers** , underlayer and protective **layer** ; first **electrode** (22) electrically connected with underlayer; and second **electrode** (26) electrically connected with the protective **layer** . The **electrodes** allow a current to flow in direction perpendicular to plane of **magnetoresistive** film.

... A **magnetoresistive head** , comprises a **magnetoresistive** film including first and second magnetization free **layers** , an intermediate **layer** sandwiched between first and second magnetization free **layers** , an underlayer and a protective **layer** , which are stacked in the order of the underlayer. The first magnetization free **layer** , the intermediate **layer** , the second magnetization free **layer** , and the protective **layer** are arranged to be perpendicular to an air-bearing

surface. Each magnetization direction of which first and second magnetization free **layers** are allowed to vary independently in response to a signal magnetic flux from a medium. The magnetization free **layers** produce a **magnetoresistive** effect in accordance with the magnetization directions. A first **electrode** is electrically connected with the underlayer and a second **electrode** is electrically connected with the protective **layer** . The **electrodes** allow a current to flow in a direction perpendicular to the plane of the **magnetoresistive** film. The intermediate **layer** includes a three-**layered** structure comprising a pair of first intermediate **layers** in contact with the first magnetization free **layer** and the second magnetization free **layer** , respectively. A second intermediate **layer** is interposed between the paired first intermediate **layers** . An INDEPENDENT CLAIM is also included for a perpendicular magnetic recording-reproducing apparatus, comprising a perpendicular magnetic recording medium; and a **magnetoresistive** **head** arranged to face the perpendicular magnetic recording medium...

...The **magnetoresistive** **head** is used for perpendicular magnetic recording-reproducing apparatus (claimed...

...The **magnetoresistive** **head** is capable of achieving a narrow gap so as to cope with a high recording...

...The figure is a cross-sectional view of a current perpendicular to plane type **magnetoresistive** **head** cut on a section perpendicular to the air-bearing surface...

...First **electrode** (22...

...Magnetization free **layers** (23, 25...

...Second **electrode** (26...

...Protective **layer** (32...

Technology Focus:

... Preferred Material: The oxide **layer** is formed of aluminum oxide, silicon oxide, iron oxide, chromium oxide, tantalum oxide, nickel oxide, and/or perovskite type oxide. Preferred Parameter: The oxide **layer** has a thickness of less than or equal to5 nm...

...Preferred Material: The pair of first intermediate **layers** is formed of **copper** , **gold** , silver, rhodium, ruthenium and/or iridium. The second intermediate **layer** is formed of beryllium, aluminum, magnesium and/or calcium...

...Preferred Material: The oxide **layer** is formed of aluminum oxide, silicon oxide, iron oxide, chromium oxide, tantalum oxide, nickel oxide, and/or perovskite type oxide. Preferred Parameter: The oxide **layer** has a thickness of less than or equal to5 nm.

Title Terms: **MAGNETORESISTIVE** ;

**28/3,K/4 (Item 4 from file: 350)**

DIALOG(R)File 350:Derwent WPIX

(c) 2005 Thomson Derwent. All rts. reserv.

016736889 **Image available**

WPI Acc No: 2005-061165/200507

XRAM Acc No: C05-021731

XRPX Acc No: N05-053180

**Magnetic recording-and-reproducing apparatus has** magnetoresistive **magnetic** head **with spin-valve film comprising non-magnetic** layer **sandwiched between magnetization fixed bed and magnetization free** layer

Patent Assignee: SONY CORP (SONY )

Number of Countries: 001 Number of Patents: 001

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week | |
|---|---|---|---|---|---|---|---|
| JP 2004362708 | A | 20041224 | JP 2003161956 | A | 20030606 | 200507 | B |

Priority Applications (No Type Date): JP 2003161956 A 20030606

Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|---|---|---|---|---|---|
| JP 2004362708 | A | | 21 | G11B-005/39 | |

**Magnetic recording-and-reproducing apparatus has** magnetoresistive **magnetic** head **with spin-valve film comprising non-magnetic** layer **sandwiched between magnetization fixed bed and magnetization free** layer

Abstract (Basic):

... A magnetic recording-and-reproducing apparatus has a **magnetoresistive** magnetic **head** (20) with a spin-valve film (40) comprising a non-magnetic **layer** isolated magnetically between a magnetization fixed bed and a magnetization free **layer** . The non-magnetic **layer** contains **copper - gold** , and the magnetization fixed bed and magnetization free **layer** comprises nickel-iron or cobalt-nickel-iron.

... A magnetic recording-and-reproducing apparatus has a **magnetoresistive** magnetic **head** (20) with a spin-valve film (40) having a structure comprising a non-magnetic **layer** isolated magnetically between a magnetization fixed bed and a magnetization free **layer** . The fixed bed has magnetization fixed to a preset direction by the exchange-coupling magnetic field between the antiferromagnetic **layer** and magnetization free **layer** from which the magnetization direction changes according to an external magnetic field. The spin-valve...

...is used as a magnet-sense element for detecting a magnetic signal. The non-magnetic **layer** contains **copper - gold** with the composition ratio of copper and gold each being (100-a) where a (at...

...or more and less than 25, and the magnetization fixed bed and the magnetization free **layer** comprises nickel-iron or cobalt-nickel-iron. The composition ratio of cobalt is 0-80...

...nickel is 10-95 at.%, and that of iron is 5-55 at.%. The amount ( **Mr** ) of residual magnetization is 160-400 kA/m. The product ( **Mr** .t) of **Mr** and the film thickness (t) of the metal magnetic thin film is 4-20 mA ...

...avoiding generation of electrostatic discharge damage. Corrosion of the medium sliding face of the magnetic **head** is prevented, and a high **magnetoresistive** effect is retained over a long period of time. Distortion of a reproduction waveform is...

...The figure shows the outline perspective diagram of the **magnetoresistive** magnetic **head** . (Drawing includes non-English language text...

... **magnetoresistive** magnetic **head** (20...

...magnetic shield **layer** (24...
... **conductor** (30a
...Title Terms: **MAGNETORESISTIVE** ;

**28/3,K/5 (Item 5 from file: 350)**
DIALOG(R)File 350:Derwent WPIX
(c) 2005 Thomson Derwent. All rts. reserv.

016713028 **Image available**
WPI Acc No: 2005-037303/200504
XRAM Acc No: C05-012457
XRPX Acc No: N05-032613

**Improving heat dissipation in micro device, e.g. magnetic tunnel junction, involves connecting two leads with different thermoelectric powers to micro-device two surfaces, respectively**

Patent Assignee: HEADWAY TECHNOLOGIES INC (HEAD-N)
Inventor: CHANG J W; CHEN J; JU K; LIU Y
Number of Countries: 002 Number of Patents: 002
Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week | |
|---|---|---|---|---|---|---|---|
| US 20040233584 | A1 | 20041125 | US 2003443358 | A | 20030522 | 200504 | B |
| JP 2004349708 | A | 20041209 | JP 2004152383 | A | 20040521 | 200504 | |

Priority Applications (No Type Date): US 2003443358 A 20030522
Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|---|---|---|---|---|---|
| US 20040233584 | A1 | | 7 | G11B-005/39 | |
| JP 2004349708 | A | | 17 | H01L-035/20 | |

Abstract (Basic):

... Improving heat dissipation in micro device comprises connecting first **lead** to bottom surface of micro-device, connecting second **lead** to top surface of micro-device to form thermoelectric structure where microstructure is located between...

... Improving heat dissipation in micro device comprises connecting first **lead** (21) to bottom surface of micro-device, connecting second **lead** (23) to top surface of micro-device to form thermoelectric structure where microstructure is located...

...causing heat generated in the micro-device to be absorbed by heat sink. The first **lead** is made of first material. The second **lead** is made of second material with different thermoelectric power from the first material. The micro...

...1) manufacturing magnetic memory reading micro-device comprising providing heat sink, depositing first conductive **layer** material, patterning first **layer** to form lower conducting **lead** , depositing pinned **layer** (14) on antiferromagnetic **layer** (12), depositing non-magnetic **layer** on pinned **layer** , depositing free **layer** (16) on non-magnetic **layer** , depositing capping **layer** (17) on free **layer** , patterning the antiferromagnetic, pinned, non-magnetic, free and capping **layers** to form giant **magneto resistant** stack, depositing second conductive material **layer** on capping **layer** to form thermoelectric structure where micro-structure is located between the pair of dissimilar metal junctions, and patterning second conductive material **layer** to form upper conducting **lead** . The conductive material has different thermoelectric power from the first material. When memory micro-device is operated, heat is transferred from micro-device into the lower **lead** and into the heat sink, thus enabling the memory micro-device to operate without excessive...

...2) magnetic memory reading micro device comprising heat sink, first material **layer** in the form of lower conducting **lead** , antiferromagnetic **layer** on lower conducting **lead** , pinned **layer** on antiferromagnetic **layer** , non-magnetic **layer** on pinned **layer** , free **layer** on non-magnetic **layer** , and capping **layer** on free **layer** . The antiferromagnetic, pinned, non-magnetic, free, and capping **layers** are patterned to form giant **magneto resistant** stack...

...The figure shows a current perpendicular to plane giant **magneto resistant** device...

...Antiferromagnetic **layer** (12...

...Pinned **layer** (14...

...Non-magnetic spacer **layer** (15...
...Free **layer** (16...

...Capping **layer** (17...

...First **lead** (21...

...Second **lead** (23...

...Top conductive **lead** (23...
Technology Focus:
... platinum rhodium, or nickel magnesium aluminum silicide. The second material is nickel chromium, molybdenum, tungsten, **copper** , **gold** , silver, uranium, vanadium, ytterbium, or cesium tri-palladium. The first material is preferably nickel copper...

...greater than or equal to 1 x 104 microwatts per square micron. The non-magnetic **layer** is electrically conductive or dielectric **layer** . The heat sink is substrate bearing array of the micro-devices or a magnetic shield that is part of magnetic write **head** . Preferred Properties: The first and second material **layers** are deposited to 0.1-3 microns thick each.
...Title Terms: **LEAD** ;

**28/3,K/6 (Item 6 from file: 350)**
DIALOG(R)File 350:Derwent WPIX
(c) 2005 Thomson Derwent. All rts. reserv.

016605941 **Image available**
WPI Acc No: 2004-764675/200475
XRAM Acc No: C04-268208
XRPX Acc No: N04-603142
**Thin-film magnetic** head **for recording/reproducing magnetic information onto/from recording surface of hard disk, comprises electromagnetic transducer or** magnetoresistive **device, and sheet-shaped heater for generating heat when energized**
Patent Assignee: TDK CORP (DENK )
Inventor: KOIDE S; OTA N; OYAMA N; SASAKI T
Number of Countries: 002 Number of Patents: 002
Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week | |
|---|---|---|---|---|---|---|---|
| US 20040201920 | A1 | 20041014 | US 2004820857 | A | 20040409 | 200475 | B |
| JP 2004335069 | A | 20041125 | JP 200418856 | A | 20040127 | 200477 | |

Priority Applications (No Type Date): JP 200418856 A 20040127; JP 2003109406 A 20030414
Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|---|---|---|---|---|---|
| US 20040201920 | A1 | | 26 | G11B-005/147 | |
| JP 2004335069 | A | | 20 | G11B-005/60 | |

**Thin-film magnetic** head **for recording/reproducing magnetic information onto/from recording surface of hard disk, comprises electromagnetic transducer or** magnetoresistive **device, and sheet-shaped heater for generating heat when energized**


Abstract (Basic):

... A thin-film magnetic **head** (10) comprises an electromagnetic transducer or a **magnetoresistive** device (40), and a sheet-shaped heater (80) for generating heat when energized. The heater includes a heating part (81) having a predetermined sheet resistance, and a **lead** part (88a) connected in series to the heating part and having a sheet resistance lower...

... A) a **head** gimbal assembly comprising a support, the above thin-film magnetic **head** formed on the support, and a gimbal for securing the support; and...

...B) a hard disk drive comprising a support (11a), the above thin-film magnetic **head** formed on the support, and a recording medium opposing the thin-film magnetic **head** .

...

...The magnetic **head** achieves high recording density...

...The figure is a sectional view of the thin-film magnetic **head** .

...

...Thin-film magnetic **head** (10...

...Overcoat **layer** (21...

...Reproducing **head** part (30...

...Lower shield **layer** (32...
...Insulating **layers** (36, 39, 72...

...Upper shield **layer** (38...

... **Magnetoresistive** device (40...

...Recording **head** part (60...

...Gap **layer** (63...

...Additional conductive **layer** (83a...

...Extraction **electrode** (85a...

... **Electrode** film member (87a...

... **Lead** part (88a...

...Undercoat **layer** (113

Technology Focus:

... Preferred Components: The heating and **lead** parts include an electrically conductive common **layer** extending from the **lead** part to the heating part. The **lead** part also includes an electrically conductive additional **layer** (83a) in contact with the common **layer** . The **lead** and heating parts are made of the same material. At least one of the heating and **lead** parts is formed by sputtering. The heating part is formed in a strip having opposite ends, and the **lead** parts are respectively connected to the opposite ends of the heating part. The heating part...

...rectangular wave pattern. The heater thermally expands when energized to cause the electromagnetic transducer or **magnetoresistive** device to project...

...Preferred Dimensions: The **lead** part has a thickness greater than that of the heating part...

...Preferred Properties: The additional conductive **layer** has a sheet resistance lower than that of the common **layer** .

...

...Preferred Materials: The additional conductive **layer** is made of **copper** , **gold** , nickel, cobalt, tantalum, tungsten, molybdenum, rhodium, and/or alloy of these metals.

...Title Terms: **HEAD** ;

**28/3,K/7 (Item 7 from file: 350)**

DIALOG(R)File 350:Derwent WPIX

(c) 2005 Thomson Derwent. All rts. reserv.

016538797 **Image available**

WPI Acc No: 2004-697517/200468

XRAM Acc No: C04-246784

XRPX Acc No: N04-552939

**Production of thin-film magnetic** head **for** head **gimbal assembly and hard disc drive, involves forming heater member having heater** layer **and cap** layer **, where the cap** layer **has higher electrical resistivity than that of the heater** layer

Patent Assignee: TDK CORP (DENK )

Inventor: KOIDE S; OTA N; OYAMA N; SASAKI T

Number of Countries: 002 Number of Patents: 003

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week | |
|---|---|---|---|---|---|---|---|
| US 20040179299 | A1 | 20040916 | US 2004784795 | A | 20040224 | 200468 | B |
| JP 2004280887 | A | 20041007 | JP 200367228 | A | 20030312 | 200468 | |
| JP 3626954 | B2 | 20050309 | JP 200367228 | A | 20030312 | 200518 | |

Priority Applications (No Type Date): JP 200367228 A 20030312

Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|---|---|---|---|---|---|
| US 20040179299 | A1 | | 28 | G11B-005/10 | |
| JP 2004280887 | A | | 22 | G11B-005/31 | |
| JP 3626954 | B2 | | 21 | G11B-005/31 | Previous Publ. patent JP 2004280887 |

**Production of thin-film magnetic** head **for** head **gimbal assembly and hard disc drive, involves forming heater member having heater** layer **and cap** layer **, where the cap** layer **has higher electrical resistivity than that of the heater** layer

Abstract (Basic):

... A thin-film magnetic **head** is produced by forming a heater member having a heater **layer** with predetermined electrical resistivity and a cap **layer** with electrical resistivity higher than that of the heater **layer** , provided on the heater **layer** ; forming electrically conductive **electrode** film on the heater member; forming electrically conductive bump on part of the **electrode** film; and removing the rest of the **electrode** film, using the bump as a mask.

... Production of thin-film magnetic **head** (10) involves forming a heater member (80) having a heater **layer** with a predetermined electrical resistivity and a cap **layer** with an electrical resistivity higher than that of the heater **layer** , provided on the heater **layer** ; forming an electrically conductive **electrode** film on the heater member; forming an electrically conductive bump (84a) on part of the **electrode** film by a plating method using part of the **electrode** film as a plating **electrode** ; and removing the rest of the **electrode** film, using the bump as a mask...

...A) a thin-film magnetic **head** comprising a heater **layer** , electrically conductive **electrode** film member, cap **layer** with an electrical resistivity higher than that of the heater **layer** , and electrically conductive bump...

...B) **head** gimbal assembly comprising a base (11a), a thin film magnetic **head** formed on the base, and a gimbal adapted to fix the base; and...

...C) a hard disk drive comprising a base, thin film magnetic **head** formed on the base, and recording medium opposed to the thin-film magnetic **head** .

...

...Used for producing thin-film magnetic **head** for **head** gimbal assembly and hard disk drive (claimed...

...A smaller spacing between the recording medium and the electromagnetic conversion device and/or the **magnetoresistive** device of the **head** is achieved, and the variation in the resistance of the heater is reduced ...

...The figure is a sectional view showing the thin-film magnetic **head** .

...

...Thin-film magnetic **head** (10

Technology Focus:

... Preferred Process: The **electrode** film is formed over the cap **layer** and an exposed portion of the heater **layer** . Bump is formed on a portion of the **electrode** film in contact with the exposed portion of the heater **layer** . The heater **layer** and the cap **layer** are formed by sputtering...

...Preferred Properties: The electrical resistivity of the cap **layer** is greater than or equal to 4 times the electrical resistivity of the heater **layer** .

...

...Preferred Materials: The heater **layer** contains **copper** , **gold** , nickel, cobalt, tantalum, tungsten, molybdenum, rhodium or their alloys. The cap **layer** contains tantalum, titanium, platinum,

ruthenium, rhodium, hafnium, chromium, nickel, cobalt, tungsten, molybdenum, rhenium, or their
...Title Terms: **HEAD** ;

**28/3,K/8 (Item 8 from file: 350)**
DIALOG(R)File 350:Derwent WPIX
(c) 2005 Thomson Derwent. All rts. reserv.

016433638 **Image available**
WPI Acc No: 2004-591555/200457
XRAM Acc No: C04-286180
XRPX Acc No: N04-649281
**Three terminal magnetic** head **for magnetic recording/reproducing apparatus, comprises magnetic semiconductor, magnetic multilayer film, tunnel** magnetoresistive **film,** electrodes **, current, and direction of magnetization**
Patent Assignee: HITACHI LTD (HITA )
Inventor: HAYAKAWA J; ITO K
Number of Countries: 002 Number of Patents: 002
Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week | |
|---|---|---|---|---|---|---|---|
| US 20040136120 | A1 | 20040715 | US 2003374089 | A | 20030227 | 200457 | B |
| JP 2004220692 | A | 20040805 | JP 20036662 | A | 20030115 | 200457 | |

Priority Applications (No Type Date): JP 20036662 A 20030115
Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|---|---|---|---|---|---|
| US 20040136120 | A1 | | 18 | G11B-005/39 | |
| JP 2004220692 | A | | 14 | G11B-005/39 | |

**Three terminal magnetic** head **for magnetic recording/reproducing apparatus, comprises magnetic semiconductor, magnetic multilayer film, tunnel** magnetoresistive **film,** electrodes **, current, and direction of magnetization**

Abstract (Basic):
... A three terminal magnetic **head** comprises magnetic semiconductor; magnetic multilayer film having first ferromagnetic **layer** , second ferromagnetic **layer** , and first non-magnetic **layer** ; tunnel **magnetoresistive** film having second ferromagnetic **layer** , third ferromagnetic **layer** , and first tunnel barrier **layer** ; first **electrode** ; second **electrode** ; third **electrode** ; current; and direction of magnetization of second ferromagnetic **layer** .
... Three terminal magnetic **head** comprises magnetic semiconductor; magnetic multilayer film having first ferromagnetic **layer** formed on the magnetic semiconductor, second ferromagnetic **layer** formed on the first ferromagnetic **layer** , and first non-magnetic **layer** formed between the first and second ferromagnetic **layers** ; tunnel **magnetoresistive** film having second ferromagnetic **layer** , third ferromagnetic **layer** formed on the second ferromagnetic **layer** , and first tunnel barrier **layer** formed between the second and third ferromagnetic **layers** ; first **electrode** connected electrically to the magnetic semiconductor; second **electrode** connected electrically first ferromagnetic **layer** , first non-ferromagnetic **layer** , or second ferromagnetic **layer** ; third **electrode** connected electrically to the third ferromagnetic **layer** ; current that is allowed to flow between the first and third **electrodes** to allow a tunnel current to flow into the tunnel **magnetoresistive** film through the magnetic semiconductor and **magnetoresistive** film; and direction of magnetization of second

ferromagnetic **layer** changing upon application of an external magnetic field and resistance change caused through the changed direction of magnetization that is detected using the second and third **electrodes** .
...

...The invention increases the output of the **magnetoresistance** device, and achieves optimum current density in the tunneling **magneto resistance** (TMR) element portion...

...The figure is a view showing an example of a structure of a three terminal **magnetoresistance** device used in a three terminal magnetic **head** .

Technology Focus:
... Preferred Component: The directions of magnetization of the first and third ferromagnetic **layers** are fixed. The direction of magnetization of the third ferromagnetic **layer** is fixed using antiferromagnetic **layer** formed on a side opposite to a side opposing the first tunnel barrier **layer** . The third **electrode** is connected electrically to the antiferromagnetic **layer** . The second tunnel barrier **layer** is formed between the magnetic semiconductor and second ferromagnetic **layer** . The second non-magnetic **layer** is formed between the magnetic semiconductor and first ferromagnetic **layer** . The second **electrode** is connected electrically to first ferromagnetic **layer** , first non-magnetic **layer** , or second non-magnetic **layer** . The second tunnel barrier **layer** is further formed between the magnetic semiconductor and non-magnetic **layer** .
...

...chromium, manganese, nitrogen, iron, cobalt, germanium, silicon, or carbon. The first, second, and third ferromagnetic **layers** contain cobalt, iron, or nickel. The first and second non-magnetic **layers** contain **copper** , **gold** , silver, or platinum...

...chromium, manganese, nitrogen, iron, cobalt, germanium, silicon, or carbon. The first, second, and third ferromagnetic **layers** contain cobalt, iron, or nickel. The first and second non-magnetic **layers** contain **copper** , **gold** , silver, or platinum.
...Title Terms: **HEAD** ;

**28/3,K/9 (Item 9 from file: 350)**
DIALOG(R)File 350:Derwent WPIX
(c) 2005 Thomson Derwent. All rts. reserv.

016390244 **Image available**
WPI Acc No: 2004-548153/200453
XRAM Acc No: C04-201311
XRPX Acc No: N04-433513
Magnetoresistive **element for magnetic** head **of hard disk drive, has pair of** electrodes **electrically connected to** magnetoresistive **film to supply electricity to substantially perpendicular direction of film surface**
Patent Assignee: TOSHIBA KK (TOKE ); FUKUZAWA H (FUKU-I); FUNAYAMA T (FUNA-I); IWASAKI H (IWAS-I); TAKAGISHI M (TAKA-I); TATEYAMA K (TATE-I); YOSHIKAWA M (YOSH-I)
Inventor: FUKUZAWA H; FUNAYAMA T; IWASAKI H; TAKAGISHI M; TATEYAMA K; YOSHIKAWA M
Number of Countries: 003 Number of Patents: 003

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week | |
|---|---|---|---|---|---|---|---|
| JP 2004214234 | A | 20040729 | JP 2002378648 | A | 20021226 | 200453 | B |
| US 20040190204 | A1 | 20040930 | US 2003743130 | A | 20031223 | 200465 | |
| CN 1534605 | A | 20041006 | CN 20031124302 | A | 20031226 | 200506 | |

Priority Applications (No Type Date): JP 2002378648 A 20021226

Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|---|---|---|---|---|---|
| JP 2004214234 | A | | 15 | H01L-043/08 | |
| US 20040190204 | A1 | | | G11B-005/39 | |
| CN 1534605 | A | | | G11B-005/39 | |

Magnetoresistive **element for magnetic** head **of hard disk drive, has pair of** electrodes **electrically connected to** magnetoresistive **film to supply electricity to substantially perpendicular direction of film surface**


Abstract (Basic):

... A **magnetoresistive** ( **MR** ) element has a pin **layer** (13) and a magnetization free **layer** (19) with a **MR** film in between. The **MR** film has a pair of non-metallic intermediate **layers** (15, 17) with a metallic **layer** (16) in between. A pair of **electrodes** is electrically connected to the **MR** film to supply electricity to the substantially perpendicular direction of the film surface.

... 1) a magnetic **head** ; and...

...Used as a **magnetoresistive** ( **MR** ) element for magnetic **heads** of hard disk drives and magnetic tape drives...

...The **MR** element has low inter- **layer** joint magnetic field and high breakdown voltage maintaining appropriate element resistance and high **MR** change rate, providing high magnetic recording density...

...The figure shows a sectional view of the **MR** element. (Drawing includes non-English language text...

...pin **layer** (13...

...non-metallic **layers** (15,17...

...metallic **layer** (16...

...magnetization free **layer** (19...


Technology Focus:

... Preferred **Layer** : The metallic **layer** and the surface metal **layer** are made of aluminum, **copper** , **gold** , silver, platinum or palladium. The non-metallic **layer** is made of oxides of boron, silicon, germanium, tantalum, tungsten, niobium, aluminum, molybdenum, phosphorus, vanadium, arsenic, antimony, zirconium, titanium, zinc, **lead** , thorium, beryllium, cadmium, scandium, lanthanum, yttrium, praseodymium, chromium, tin, gallium, indium, rhodium, palladium, magnesium, lithium...

Title Terms: **MAGNETORESISTIVE** ;

**28/3,K/10 (Item 10 from file: 350)**

DIALOG(R)File 350:Derwent WPIX


(c) 2005 Thomson Derwent. All rts. reserv.


016216267 **Image available**

WPI Acc No: 2004-374155/200435
XRAM Acc No: C04-140722
XRPX Acc No: N04-297641

Magnetoresistive head **e.g. giant** magnetoresistive head **for magnetic tape apparatus e.g. tape streamers, comprises spin-valve film having specific corrosion potential relative to standard hydrogen** electrode

Patent Assignee: SONY CORP (SONY ); OKABE A (OKAB-I); SODA Y (SODA-I); TETSUKAWA H (TETS-I)
Inventor: OKABE A; SODA Y; TETSUKAWA H
Number of Countries: 002 Number of Patents: 002
Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week | |
|---|---|---|---|---|---|---|---|
| US 20040075956 | A1 | 20040422 | US 2003627839 | A | 20030725 | 200435 | B |
| JP 2004247021 | A | 20040902 | JP 2003107774 | A | 20030411 | 200457 | |

Priority Applications (No Type Date): JP 2003107774 A 20030411; JP 2002223987 A 20020731; JP 2002349907 A 20021202; JP 2002370519 A 20021220 ; JP 2002370520 A 20021220
Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|---|---|---|---|---|---|
| US 20040075956 | A1 | | 29 | G11B-005/39 | |
| JP 2004247021 | A | | 24 | G11B-005/39 | |

Magnetoresistive head **e.g. giant** magnetoresistive head **for magnetic tape apparatus e.g. tape streamers, comprises spin-valve film having specific corrosion potential relative to standard hydrogen** electrode

Abstract (Basic):

... **Magnetoresistive head** comprises a spin-valve film (40a) as magnetic sensor element for detecting magnetic signals while...

...contact with magnetic recording medium. The spin-valve film has a structure comprising anti-ferromagnetic **layer** (42), pinned **layer** (43), free **layer** (45), and non-magnetic **layer** (44). It has a corrosion potential relative to a standard hydrogen **electrode** of at least +0.4 when immersed in 0.1 mol/L sodium chloride solution.
... A **magnetoresistive head** comprises a spin-valve film as a magnetic sensor element for detecting magnetic signals while...

...magnetic recording medium. The spin-valve film has a structure in which an anti-ferromagnetic **layer** , a pinned **layer** in which the direction of magnetization is pinned in a predetermined direction by an exchange-coupling magnetic field at work between itself and the anti-ferromagnetic **layer** , a free **layer** in which the direction of magnetization changes in accordance with an external magnetic field, and a non-magnetic **layer** for magnetically isolating the pinned **layer** and the free **layer** are **layered** . The spin-valve film has a corrosion potential relative to a standard hydrogen **electrode** of at least +0.4. (V vs. SHE) when immersed in a sodium chloride solution...

...The **head** e.g. giant **magnetoresistive head** is used in magnetic tape apparatus e.g. tape streamers...

...The spin valve film has good corrosion resistance and maintains high **magnetoresistance** ratio. Appropriate reading operations can be performed on magnetic recording medium even in cases where a protective film is not formed on the surface of the **head** that contacts the recording medium...

...Anti-ferromagnetic **layer** (42...

...Pinned **layer** (43...
...Non-magnetic **layer** (44...

...Free **layer** (45...
Technology Focus:
... Preferred Materials: The non-magnetic **layer** comprises **copper / gold** ( **CuAu** ), and assuming the composition ratio of **Cu** : **Au** is (100-a1):a1. The pinned **layer** and the free **layer** comprise nickel/iron (NiFe) or copper/nickel/iron (CoNiFe), and assuming the composition ratio of Co:Ni:Fe is b1:c1:d1. The **magnetoresistive head** detects magnetic signals while in contact with a tape-formed magnetic recording medium. It also...
Title Terms: **MAGNETORESISTIVE** ;

**28/3,K/11 (Item 11 from file: 350)**
DIALOG(R)File 350:Derwent WPIX
(c) 2005 Thomson Derwent. All rts. reserv.

015341305 **Image available**
WPI Acc No: 2003-402243/200338
XRAM Acc No: C03-106915
XRPX Acc No: N03-320857
**Spin valve for use with, e.g., magnetic recording media comprises permanent magnet** layer **, reference ferromagnetic** layer **, coupling inducing** layer **, free ferromagnetic** layer **, and electroconductive** layer
Patent Assignee: SEAGATE TECHNOLOGY LLC (SEAG-N)
Inventor: ANDERSON P E; SEIGLER M A; SHUKH A M
Number of Countries: 001 Number of Patents: 002
Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week | |
|---|---|---|---|---|---|---|---|
| US 20030039081 | A1 | 20030227 | US 2000175272 | P | 20000110 | 200338 | B |
| | | | US 2001757845 | A | 20010110 | | |
| | | | US 2002270873 | A | 20021015 | | |
| US 6754054 | B2 | 20040622 | US 2000175272 | P | 20000110 | 200442 | |
| | | | US 2001757845 | A | 20010110 | | |
| | | | US 2002270873 | A | 20021015 | | |

Priority Applications (No Type Date): US 2000175272 P 20000110; US 2001757845 A 20010110; US 2002270873 A 20021015
Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|---|---|---|---|---|---|
| US 20030039081 | A1 | | 18 | G11B-005/127 | Provisional application US 2000175272 |
| | | | | | CIP of application US 2001757845 |
| US 6754054 | B2 | | | G11B-005/27 | Provisional application US 2000175272 |
| | | | | | CIP of application US 2001757845 |

**Spin valve for use with, e.g., magnetic recording media comprises permanent magnet** layer **, reference ferromagnetic** layer **, coupling inducing** layer **, free ferromagnetic** layer **, and electroconductive** layer

Abstract (Basic):
... A spin valve (46c) has permanent magnet (62) **layer** , reference ferromagnetic **layer** , coupling inducing **layer** between the permanent

magnet **layer** and the reference ferromagnetic **layer** , free ferromagnetic **layer** , and electroconductive **layer** between the free **layer** and the reference **layer** .

... magnetic disc drive storage system comprising housing, rotatable magnetic storage medium in the housing, recording **head** mounted in the housing adjacent the rotatable storage medium and having the inventive spin valve...

...2) a current perpendicular to plane spin valve comprising permanent magnet **layer** , pinned ferromagnetic **layer** adjacent the permanent magnet **layer** , antiferromagnetic coupling inducing **layer** adjacent the pinned ferromagnetic **layer** (64), reference ferromagnetic **layer** adjacent the antiferromagnetic **layer** , electroconductive **layer** adjacent the reference **layer** , free ferromagnetic **layer** adjacent the electroconductive **layer** , and epitaxy breaking **layer** between the pinned ferromagnetic **layer** and antiferromagnetic **layer** and/or between the antiferromagnetic **layer** and the reference **layer** ; and...

...The invention is used with, e.g., magnetic recording media. It is used in recording **head** for magnetic disc drive storage system and for **magnetoresistive** random access memory device (claimed...

...Opposing **electrodes** (48, 50...

...Ferromagnetic pinned **layer** (64...

...Subsequent **layers** (66,68,70,72...
Technology Focus:
... Preferred Device: The coupling inducing **layer** provides antiferromagnetic coupling between the permanent magnet **layer** and the reference ferromagnetic **layer** .
...

...Preferred Components: The spin valve further includes a pinned ferromagnetic **layer** between the permanent **layer** and the coupling inducing **layer** , an epitaxy breaking **layer** , a seed **layer** , and flux shunt **layer** . The storage system further includes first and second **electrical contacts** structured and arranged to provide current that passes through the spin valve...

...Preferred Materials: The coupling inducing **layer** is formed of a material consisting of ruthenium (Ru), rhodium (Rh), or chromium (Cr). The electroconductive **layer** is formed of copper (Cu), gold (Au), silver (Ag), or an alloy consisting of at least1 of **Cu** , **Au** , or Ag. The epitaxy breaking **layer** is formed of tantalum (Ta), zirconium (Zr), or niobium (Nb). The seed **layer** is formed of a material consisting of Cr, tungsten (W), titanium-tungsten (TiW), or magnesium
...Title Terms: **LAYER** ;

**28/3,K/12 (Item 12 from file: 350)**
DIALOG(R)File 350:Derwent WPIX
(c) 2005 Thomson Derwent. All rts. reserv.

014869584 **Image available**
WPI Acc No: 2002-690290/200274
XRPX Acc No: N02-544507
**Read** head **for magnetic disk drive storage system, has** lead **structure with conductive material** layer **having resistance lower than resistance**

**of remaining portion of** lead **substrate**
Patent Assignee: CRUE B W (CRUE-I); PARKER G J (PARK-I); SEIGLER M A (SEIG-I); VAN DER HEIJDEN P A (VHEI-I); SEAGATE TECHNOLOGY LLC (SEAG-N)
Inventor: CRUE B W; PARKER G J; SEIGLER M A; VAN DER HEIJDEN P A
Number of Countries: 001 Number of Patents: 002
Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week | |
|---|---|---|---|---|---|---|---|
| US 20020089795 | A1 | 20020711 | US 2001260712 | P | 20010110 | 200274 | B |
| | | | US 2001955776 | A | 20010919 | | |
| US 6654209 | B2 | 20031125 | US 2001260712 | P | 20010110 | 200378 | |
| | | | US 2001955776 | A | 20010919 | | |

Priority Applications (No Type Date): US 2001260712 P 20010110; US 2001955776 A 20010919
Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|---|---|---|---|---|---|
| US 20020089795 | A1 | | 11 | G11B-005/39 | Provisional application US 2001260712 |
| US 6654209 | B2 | | | G11B-005/39 | Provisional application US 2001260712 |

**Read** head **for magnetic disk drive storage system, has** lead **structure with conductive material** layer **having resistance lower than resistance of remaining portion of** lead **substrate**


Abstract (Basic):
... A **magnetoresistive** sensor (34) is placed between a pair of **lead** structures (30,32) having an integrally formed **lead** element and the magnetic shields (40,46). A portion of the **lead** structure is formed by conductive material **layers** (42,44,48,50) having resistance lower than the remaining portion of the **lead** structure.
... 1) Magnetic recording **head** ;
(...

...3) **Lead** structure formation method; and...

...4) Data reading method using current perpendicular to the plane read **head** .
...
...Allows to maintain shield-to-shield spacing requirements, as a **lead** structure with lower resistivity material is placed near the **magnetoresistive** sensor...

...The figure shows an isometric sectional view of the read **head** having low resistance **lead** structure...

... **Lead** structures (30,32...

... **Magnetoresistive** sensor (34...

...Conductive material **layers** (42,44,48,50

Technology Focus:
... The conductive material for **lead** structure is selected from the group **Cu** , **Au** , Ag, Ta, Cr and Rh.
...Title Terms: **HEAD** ;

**28/3,K/13 (Item 13 from file: 350)**
DIALOG(R)File 350:Derwent WPIX
(c) 2005 Thomson Derwent. All rts. reserv.

013599136 **Image available**
WPI Acc No: 2001-083343/200110
Related WPI Acc No: 2000-119134; 2000-682182
XRAM Acc No: C01-024343
XRPX Acc No: N01-063673

**Thin film magnetic** head **comprises insulating** layer **on one side of lower and upper gap** layers **containing** nickel - aluminum **group alloy of preset composition**

Patent Assignee: ALPS ELECTRIC CO LTD (ALPS )
Number of Countries: 001 Number of Patents: 001
Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week | |
|---|---|---|---|---|---|---|---|
| JP 2000020924 | A | 20000121 | JP 9937867 | A | 19990216 | 200110 | B |

Priority Applications (No Type Date): JP 98121425 A 19980430
Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|---|---|---|---|---|---|
| JP 2000020924 | A | | 13 | G11B-005/39 | |

**Thin film magnetic** head **comprises insulating** layer **on one side of lower and upper gap** layers **containing** nickel - aluminum **group alloy of preset composition**

Abstract (Basic):

... Magnetic **head** has element **layer** (45) with **MR** effect on lower gap **layer** (54) on lower shield **layer** (53). An **electrode layer** (48) imparts detection electric current in element **layer** (45). Upper gap **layer** (56) is provided on **electrode layer** (48), via upper shield **layer** (57). Insulating **layer** containing **Ni - Al** group alloy with element chosen from Si, B, Cr, Ti, Ta or Nb, is provided on one side of gap **layers** .

... An INDEPENDENT CLAIM is also included for manufacture of thin film magnetic **head** .

...

...For magnetic **heads** such as anisotropic **magnetoresistance** (AMR) and giant **magnetoresistance** ( **GMR** ) magnetic **heads** .

...

...Heat generated by the electric current can be shielded effectively by the insulating **layers** . The output of magnetic **head** is raised and sufficient exchange anisotropy field is impressed in the thin film without production of Barkhausen noise. The magnetic **head** excels in read-out property, thermal conductivity and corrosion resistance in alkali solution. A reliable product is provided from magnetic **head** . Gap **layer** with low film stress is obtained...

...The figure shows the sectional view of **magneto - resistance head** .

...

...Element **layer** (45...

... **Electrode layer** (48...

...Lower shield **layer** (53...

...Lower gap **layer** (54...

...Upper gap **layer** (56...

...Upper shield **layer** (57
...Title Terms: **HEAD** ;

**28/3,K/14 (Item 14 from file: 350)**
DIALOG(R)File 350:Derwent WPIX
(c) 2005 Thomson Derwent. All rts. reserv.

012943445 **Image available**
WPI Acc No: 2000-115298/200010
XRPX Acc No: N00-087183
**Multilayered structure for large** magneto resistive **sensor**
Patent Assignee: US DEPT ENERGY (USAT )
Inventor: CEGLIO N M; HAWRYLUK A M; STEARNS D G; VERNON S P
Number of Countries: 001 Number of Patents: 001
Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week | |
|---|---|---|---|---|---|---|---|
| US 6002553 | A | 19991214 | US 94202991 | A | 19940228 | 200010 | B |

Priority Applications (No Type Date): US 94202991 A 19940228
Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|---|---|---|---|---|---|
| US 6002553 | A | | 6 | G11B-005/39 | |

**Multilayered structure for large** magneto resistive **sensor**

Abstract (Basic):
... Each magnetic **layer** (12) is a single magnetic domain and non-magnetic material (14), have thickness such that...
...coupling between adjacent magnetic material is less than magneto static coupling. A pair of spaced **electrodes** are placed on single later surfaces (16,18) or placed in opposed edge face (20...
... Several alternating **layers** of magnetic material (12) and non-magnetic conducting material (14) are patterned in three-dimensional...

...leastW greater than B and W' is between 0.1-5 microns. The non-magnetic **layers** are formed of **copper** , **gold** , silver and magnetic **layer** is formed of iron, cobalt, nickel or magnetic alloy. The current is made to flow in current perpendicular to plane (CPP) mode or in current in plane ( **CIP** ) mode...

...For large **magneto resistive** sensor used in magnetic read/write **heads** , for high density magnetic information storage and retrieval...

...Enables to achieve strong **magneto resistive** response with high sensitivity. Provides opportunity for high spatial resolution of local fields, and innovative...

...The figure shows perspective view of giant **magneto resistive** sensor ...

...Magnetic **layer** (12....

**28/3,K/15 (Item 15 from file: 350)**
DIALOG(R)File 350:Derwent WPIX
(c) 2005 Thomson Derwent. All rts. reserv.

004255280

WPI Acc No: 1985-082158/198514
XRPX Acc No: N85-061567

**Thin film** magneto - resistive **recording** head **- includes ferromagnetic thin film with coupling element to** magneto resistive layer

Patent Assignee: SHARP KK (SHAF )
Inventor: KIRA T; MIYAUCHI T; YOSHIKAWA M
Number of Countries: 003 Number of Patents: 005
Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week | |
|---|---|---|---|---|---|---|---|
| DE 3404273 | A | 19850328 | DE 3404273 | A | 19840208 | 198514 | B |
| GB 2146482 | A | 19850417 | GB 843588 | A | 19840210 | 198516 | |
| DE 3404273 | C | 19870122 | | | | 198703 | |
| US 4639806 | A | 19870127 | US 84577389 | A | 19840206 | 198706 | |
| GB 2146482 | B | 19871231 | | | | 198801 | |

Priority Applications (No Type Date): JP 83228125 A 19831130; JP 83167312 A 19830909
Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|---|---|---|---|---|---|
| DE 3404273 | A | | 32 | | |

**Thin film** magneto - resistive **recording** head - ...

**...includes ferromagnetic thin film with coupling element to** magneto resistive layer

...Abstract (Basic): Zn-ferrite, Sendust power TM, Permalloy power TM, etc., that act as magnetic shielding. Intermediate **layers** of an insulating material (10,12,16) are produced, e.g. $SiO_2$, SiN, and $Al_2O_3$ ...

...Premagnetisation is provided by a thin film (11), and another **layer** (13) is a **magneto resistive** element, e.g. Ni-Fe, Ni-Co, etc. A further **layer** (15) of conducting material, e.g. Al, **Cu** , **Au** , operates as a **conductor** to the **magneto resistive** element. A ferromagnetic thin film e.g. Ni-Co, Ni-Co-P, Co-P, $Fe_2O_5$ with high coercitivity provides a coupling element with the **magneto resistive** film...

...Abstract (Equivalent): Zn-ferrite, Sendust power TM, Permalloy power TM, etc., that act as magnetic shielding. Intermediate **layers** of an insulating material (10,12,16) are produced, e.g. $SiO_2$, SiN, and $Al_2O_3$ ...

...Premagnetisation is provided by a thin film (11), and another **layer** (13) is a **magneto resistive** element, e.g. Ni-Fe, Ni-Co, etc. A further **layer** (15) of conducting material, e.g. Al, **Cu** , **Au** , operates as a **conductor** to the **magneto resistive** element. A ferromagnetic thin film e.g. Ni-Co, Ni-Co-P, Co-P, $Fe_2O_5$ with high coercitivity provides a coupling element with the **magneto resistive** film...

...Abstract (Equivalent): A thin film magnetic **head** for detecting, as a change in electric resistance, a change in signal magnetic field to be applied along the hard axis of magnetization of a **magnetoresistive** thin film having uni-axis anisotropy, in which **head** the **magnetoresistive** thin film is cuopled in ferromagnetic exchange interaction with a ferromagnetic film, which has a substantially larger coercive force than the **magnetoresistive** film and is disposed to suppress Barkhausen jumps therein, the **magneto - resistive** film being substantially greater in length than in width, a respective current **lead** is superposed over the **magneto - resistive** film at each end thereof, the said ferromagnetic film consists of a plurality of

discrete portions extending across and in direct contact with the **magneto - resistive** film, the discrete portions are separated in the longitudinal direction of the **magneto - resistive** film, and each current **lead** overlies respective mutually superposed portions of the **magneto - resistive** film and the said ferromagnetic film.

...Abstract (Equivalent): The thin film magnetic **head** for detecting a change in signal magnetic field to be applied along the magnetisation hard axis direction of an elongated metal ferromagnetic thin film ( **MR** element) having uni-axis anisotropy, which comprises a ferromagnetic film, which is sufficiently larger in coercive force than the metal ferromagnetic think film ( **MR** element). The ferromagnetic film is exclusively magnetised along a longitudinal direction of the elongated **MR** element and is arranged on a superposed portion between a **lead conductor** portion and the metal ferromagnetic thin film ( **MR** element ...

...The metal ferromagnetic thin film ( **MR** element) is coupled in a ferromagnetic exchange interaction relationship with the ferromagnetic film to thus increase the sensitivity of the **head** , while suppressing Barkhausen noise...

...ADVANTAGE - Has better signal to noise ratio and suppresses B-jump of **MR** element. (16pp)

...Title Terms: **HEAD** ;

**30/3,K/1 (Item 1 from file: 347)**
DIALOG(R)File 347:JAPIO
(c) 2005 JPO & JAPIO. All rts. reserv.

05986742 **Image available**
CONDUCTIVE OXIDE THIN FILM, THIN FILM CAPACITOR AND **MAGNETO - RESISTANCE** EFFECT ELEMENT

PUB. NO.: 10-269842 [JP 10269842 A]
PUBLISHED: October 09, 1998 (19981009)
INVENTOR(s): FUKUSHIMA SHIN
ABE KAZUHIDE
KOMATSU SHUICHI
APPLICANT(s): TOSHIBA CORP [000307] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 09-076078 [JP 9776078]
FILED: March 27, 1997 (19970327)

CONDUCTIVE OXIDE THIN FILM, THIN FILM CAPACITOR AND **MAGNETO - RESISTANCE** EFFECT ELEMENT

ABSTRACT

...To provide a conductive oxide thin film of a perovskite structure having a comparatively large **lattice constant** close to, for example Ba(sub 1-x)Sr(sub x)TiO(sub 3) rich...
... oxide thin film is obtained by selecting material having a suitable crystal structure, and a **lattice constant** in its bed substrate or a bed **layer** , and letting epitaxial growth be set in thereon, for example, a thin film capacitor 6 comprising a lower part **electrode** 2, a dielectric thin film 4, and an upper part **electrode** 5 laminated in order, is used as material for an **electrode** . Since the aforesaid thin film indicates antiferromagnetism, it can be utilized for magnetizing one of ferromagnetism **layers** in a **magneto - resistance** effect element, and adhering the magnetism thereto.

**30/3,K/2 (Item 2 from file: 347)**
DIALOG(R)File 347:JAPIO
(c) 2005 JPO & JAPIO. All rts. reserv.

03139075 **Image available**
**MAGNETORESISTANCE** ELEMENT OF SUPERCONDUCTING LAMINATED FILM

PUB. NO.: 02-114575 [JP 2114575 A]
PUBLISHED: April 26, 1990 (19900426)
INVENTOR(s): ONO EIZO
NOJIMA HIDEO
OSADA MASAYA
TSUCHIMOTO SHUHEI
APPLICANT(s): SHARP CORP [000504] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 63-268586 [JP 88268586]
FILED: October 24, 1988 (19881024)
JOURNAL: Section: E, Section No. 954, Vol. 14, No. 338, Pg. 60, July 20, 1990 (19900720)

**MAGNETORESISTANCE** ELEMENT OF SUPERCONDUCTING LAMINATED FILM

ABSTRACT

... films are laminated alternately, the laminated ceramic superconductor

films are connected in series electrically and **electrodes** are formed on both ends...

... superconductor films 6 and electrically insulating films 7 are piled up alternately; the individual superconductor **layers** 6 are constituted so as to be folded back and are connected in series electrically...

... a large output voltage is obtained by adding voltages generated in the individual ceramic superconductor **layers** when a series grain boundary is increased or a magnetic field is applied; it is...

... good- quality multilayer film structure which is not stripped off because a mismatching of a **lattice constant** between the superconductor films 6 and the insulating films 7 is extremely small. Thereby, a...

**30/3,K/3 (Item 1 from file: 350)**
DIALOG(R)File 350:Derwent WPIX
(c) 2005 Thomson Derwent. All rts. reserv.

017005941 **Image available**
WPI Acc No: 2005-330258/200534
XRAM Acc No: C05-102794
XRPX Acc No: N05-270013

Magnetoresistance **effect element for magnetic head, comprises nano-contact portion disposed between free** layer **and pinned** layer **, having dimension of not more than Fermi length and provided with magnetic wall in inside portion**

Patent Assignee: TDK CORP (DENK ); SATO I (SATO-I); SBIAA R (SBIA-I)
Inventor: SATO I; SBIAA R
Number of Countries: 002 Number of Patents: 002
Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week | |
|---|---|---|---|---|---|---|---|
| US 20050068689 | A1 | 20050331 | US 2004882322 | A | 20040702 | 200534 | B |
| JP 2005109242 | A | 20050421 | JP 2003342456 | A | 20030930 | 200534 | |

Priority Applications (No Type Date): JP 2003342456 A 20030930
Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|---|---|---|---|---|---|
| US 20050068689 | A1 | | 10 | G11B-005/33 | |
| JP 2005109242 | A | | 11 | H01L-043/08 | |

Magnetoresistance **effect element for magnetic head, comprises nano-contact portion disposed between free** layer **and pinned** layer **, having dimension of not more than Fermi length and provided with magnetic wall in inside...**

Abstract (Basic):

... A **magnetoresistance** effect element comprises a free **layer** , a pinned **layer** , and nano-contact portion(s) disposed between the free and pinned **layers** . The nano-contact portion has a dimension including a length in a **layer** lamination direction of **magnetoresistance** effect element and/or a length in a direction normal to the **layer** lamination direction of not more than Fermi length. It is provided with a magnetic wall...

... A **magnetoresistance** effect element comprises a free **layer** formed of ferromagnetic **layer** , a pinned **layer** formed of ferromagnetic **layer** , and nano-contact portion(s) disposed at least one portion(s) between the free **layer** and pinned **layer** . The nano-contact portion has a dimension including a length in a **layer** lamination direction of **magnetoresistance** effect element and/or a

length in a direction normal to the **layer** lamination direction of not more than Fermi length. The nano-contact portion is provided with...

...An INDEPENDENT CLAIM is also included for a magnetic head comprising a **magnetoresistance** effect element having a lamination structure, **electrodes** disposed on both sides of the lamination structure of **magnetoresistance** effect element, and a pair of shield members disposed on outside surfaces of the **electrodes** , respectively...

...The **magnetoresistance** element provides **magnetoresistance** effect of not less than50% and detects recording media field with high sensitivity...

...The figure is a sectional view, in **layer** lamination direction, of the **magnetoresistance** element...
...Free **layer** (1...

...Pinned **layer** (2...

...Insulating **layer** (4...

...Conductive **layer** (5...
Technology Focus:
... portion is the Bloch magnetic wall, a length (h) of nano-contact portion in the **layer** lamination direction and a **lattice constant** (a) of material forming the nano-contact portion have a relationship: h being less than...

...magnetic wall, a distance (h) of nano-contact portion in the lamination direction and a **lattice constant** (a) of material forming the nano-contact portion have a relationship: h being greater than...

...Preferred Components: The ferromagnetic **layers** forming the free **layer** and pinned **layer** are formed of ferromagnetic material having a spin polarization of not less than0.5. An insulating **layer** (4) is disposed between the free **layer** (1) and pinned **layer** (2). The insulating **layer** and nano-contact portion form an intermediate **layer** between the free **layer** and pinned **layer** . A conductive **layer** (5) is disposed between the free **layer** and intermediate **layer** , and between the pinned **layer** and intermediate **layer** . A sensing current passes between the free **layer** and pinned **layer** through the nano-contact portion (3...

...Preferred Dimensions: The conductive **layer** has a thickness of 0.1-1 nm ...

...Preferred Materials: The insulating **layer** is formed of oxide or nitride...

...Preferred Materials: The insulating **layer** is formed of oxide or nitride.
Title Terms: **MAGNETORESISTIVE** ;

**30/3,K/4** **(Item 2 from** file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2005 Thomson Derwent. All rts. reserv.

016240584 **Image available**
WPI Acc No: 2004-398477/200437

Related WPI Acc No: 2005-455685
XRAM Acc No: C04-149110
XRPX Acc No: N04-317638

**Magnetic head for hard disk drive, comprises a read head structure including electrical** lead **structure that includes electrical** lead layer **and** seed layer **, which comprises a material that is** epitaxially matched **with the** lead layer

Patent Assignee: PARKER M A (PARK-I); PINARBASI M (PINA-I); SCHWENKER R O (SCHW-I); INT BUSINESS MACHINES CORP (IBMC )
Inventor: PARKER M A; PINARBASI M; SCHWENKER R O
Number of Countries: 001 Number of Patents: 002
Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week | |
|---|---|---|---|---|---|---|---|
| US 20040075954 | A1 | 20040422 | US 2002273451 | A | 20021017 | 200437 | B |
| US 6853519 | B2 | 20050208 | US 2002273451 | A | 20021017 | 200511 | |

Priority Applications (No Type Date): US 2002273451 A 20021017
Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|---|---|---|---|---|---|
| US 20040075954 | A1 | | 11 | G11B-005/39 | |
| US 6853519 | B2 | | | G11B-005/127 | |

**Magnetic head for hard disk drive, comprises a read head structure including electrical** lead **structure that includes electrical** lead layer **and** seed layer **, which comprises a material that is** epitaxially matched **with the** lead layer

Abstract (Basic):

... A magnetic head comprises a read head structure including a **magnetoresistive** sensor and an electrical **lead** structure that includes a seed **layer** (74) and an electrical **lead layer** (78). The electrical **lead layer** comprises copper, silver, molybdenum, iridium, rhodium, or ruthenium. The **seed layer** comprises a material that is **epitaxially matched** with the **lead layer** .

... A magnetic head comprises a read head structure including a **magnetoresistive** sensor and an electrical **lead** structure that includes a seed **layer** and an electrical **lead layer** . The electrical **lead layer** comprises copper, silver, molybdenum, iridium, rhodium (Rh), or ruthenium. The **seed layer** comprises a material that is **epitaxially matched** between atomic sites along a first closest packed direction of a first closest packed plane in the seed **layer** across the interface of the seed **layer** with the **lead layer** , to a second closest packed direction of a second closest packed plane in the electrical **lead layer** material. The first closest packed plane in the seed **layer** is parallel to the second closest packed plane in the electrical **lead layer** . INDEPENDENT CLAIMS are also included for...

...b) a method for fabricating an electrical **lead** structure for a magnetic head, comprising sputtering a seed **layer** upon a magnetic head wafer surface, and sputtering an electrical **lead layer** upon the seed **layer** , with the electrical **lead layer** being comprised of face centered cubic (FCC) crystal structure and consisting of copper, silver, iridium or Rh, and with the seed **layer** having a BCC crystal structure, where the FCC crystal structure and the BCC crystal structure...

...The figure is an enlarged side cross-sectional view of a seed **layer** and electrical **lead layer** of read head portion of magnetic head...

...Seed **layer** (74...

...Electrical **lead** **layer** (78...
Technology Focus:
... Preferred Materials: The seed **layer** consists of vanadium (V), molybdenum (Mo), tungsten (W) or alloys V, Mo, W, niobium, tantalum, titanium and chromium. The seed **layer** has a thickness of 5-100 (preferably approximately35)Angstrom. The **lead** **layer** is Rh, and the seed **layer** comprises VMo, where the amount of V is approximately29-39 (preferably 34) at.%, or VW...
...Title Terms: **LEAD** ;

**30/3,K/5 (Item 3 from file: 350)**
DIALOG(R)File 350:Derwent WPIX
(c) 2005 Thomson Derwent. All rts. reserv.

015137134 **Image available**
WPI Acc No: 2003-197660/200319
XRPX Acc No: N03-156953
**Thin-film ferroelectric/pyroelectric infrared detector has colossal** magneto - resistive electrode layer **provided on deposition surface of ferroelectric/pyroelectric** layer
Patent Assignee: US SEC OF ARMY (USSA )
Inventor: TIDROW M; TIDROW S
Number of Countries: 001 Number of Patents: 001
Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week | |
|---|---|---|---|---|---|---|---|
| US 6495828 | B1 | 20021217 | US 2000550621 | A | 20000417 | 200319 | B |

Priority Applications (No Type Date): US 2000550621 A 20000417
Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|---|---|---|---|---|---|
| US 6495828 | B1 | | 7 | G01J-005/12 | |

**Thin-film ferroelectric/pyroelectric infrared detector has colossal** magneto - resistive electrode layer **provided on deposition surface of ferroelectric/pyroelectric** layer

Abstract (Basic):
... A colossal **magneto - resistive electrode layer** (130) is provided on a deposition surface (121) of a lattice matched substrate **layer** (120). A thin-film ferroelectric/pyroelectric **layer** (140) is arranged on a deposition surface (131) of the **magneto - resistive electrode layer** . Another colossal **magneto - resistive electrode layer** (150) is arranged on a deposition surface (141) of the ferroelectric/pyroelectric **layer** .
... Provides semiconductor transparent **electrode** material of required **lattice constant** values, crystal orientation and chemical compatibility. As **electrode** is made of specific material, overall performance of detector is improved. Provides desired resistance by varying composition of colossal **magneto - resistive** (CMR) **electrode layer** and by tuning its transition temperature...

...lattice matched substrate **layer** (120...

...deposition surface of substrate **layer** (121...

...colossal **magneto - resistive electrode layer** (130,150...
...deposition surface of **magneto - resistive electrode layer** (140)

ferroelectric/pyroelectric material **layer** (131...

...deposition surface of ferroelectric/pyroelectric **layer** (141...
Technology Focus:
... containing NaCl, LiF, NaF, KF, KCl or solid solution of LaAlO3 and Sr2AlTaO6. The colossal **magneto - resistive electrode layer** consists of LaCaMnO3.
...Title Terms: **ELECTRODE** ;

**30/3,K/6 (Item 4 from file: 350)**
DIALOG(R)File 350:Derwent WPIX
(c) 2005 Thomson Derwent. All rts. reserv.

014541013 **Image available**
WPI Acc No: 2002-361716/200239
XRAM Acc No: C02-102276
XRPX Acc No: N02-282751
Magnetoresistive **device structure includes monocrystalline semiconductor substrate, monocrystalline insulating** layer **, and** magnetoresistive layer
Patent Assignee: MOTOROLA INC (MOTI )
Inventor: DROOPAD R; EISENBEISER K; FINDER J M; RAMDANI J
Number of Countries: 095 Number of Patents: 003
Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week | |
|---|---|---|---|---|---|---|---|
| WO 200209151 | A2 | 20020131 | WO 2001US22658 | A | 20010718 | 200239 | B |
| AU 200176979 | A | 20020205 | AU 200176979 | A | 20010718 | 200241 | |
| TW 503459 | A | 20020921 | TW 2001117906 | A | 20010723 | 200337 | |

Priority Applications (No Type Date): US 2000624699 A 20000724
Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|---|---|---|---|---|---|
| WO 200209151 | A2 | E | 34 | H01L-000/00 | |

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW
Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|---|---|---|---|---|---|
| AU 200176979 | A | | | H01L-000/00 | Based on patent WO 200209151 |
| TW 503459 | A | | | H01L-021/00 | |

Magnetoresistive **device structure includes monocrystalline semiconductor substrate, monocrystalline insulating** layer **, and** magnetoresistive layer

Abstract (Basic):
... A **magnetoresistive** device structure comprises...

...ii) a monocrystalline insulating **layer** which is epitaxially grown on the substrate, and...

...iii) a **magnetoresistive layer** (26) which is epitaxially grown on the monocrystalline insulating **layer** .
... An INDEPENDENT CLAIM is also included for a method for fabricating a **magnetoresistive** device structure, comprising...
...a) epitaxially growing a first monocrystalline **layer** having a strain and a second **lattice constant** , on a substrate...

...b) forming a strain relief **layer** underlying the first **layer** to relieve the strain in the first **layer** ; and...

...c) epitaxially growing a second **layer** on the first **layer** , in which the second **layer** exhibits **magnetoresistive** properties and lattice matched to the first **layer** .

...

...As a **magnetoresistive** device structure, e.g. integrated **magnetoresistive** device structure (claimed...

...The structure provides a monolithic integration of **magnetoresistive** materials...

...Monocrystalline oxide **layer** (24...

... **Magnetoresistive** **layer** (26...

...Amorphous oxide **layer** (28...
...Template **layer** (30
Technology Focus:
... Preferred Component: A template **layer** (30) which is 1-10 monolayers thick, is provided on the monocrystalline insulating **layer** . An amorphous oxide **layer** (28) underlies the monocrystalline insulating **layer** . An integrated logic element is formed at least partially in the substrate. A magnetic sensor is formed at least partially in the **magnetoresistive** **layer** . An interconnection is formed between and electrically interconnecting the integrated logic element and the memory element. The **magnetoresistive** sensor comprises a memory element, or a magnetic memory read or write device. A compound semiconductor **layer** is formed on the monocrystalline insulating **layer** . The **magnetoresistive** **layer** comprises a monocrystalline **layer** , and a material having an ordered crystalline structure. A complementary metal oxide semiconductor (CMOS) is formed at least partially in the substrate. A monocrystalline alkali earth metal oxide **layer** (24) is grown on a portion of the substrate. It comprises SrgBa1-gTiO3, where g is 0-1. The monocrystalline alkali earth metal oxide **layer** is greater than 5nm thick...

...Preferred Method: The first **layer** is epitaxially grown by molecular beam epitaxy (MBE), metal organic chemical vapor deposition (MOCVD), (MEE...

...plasma vapor deposition (PVD), pulsed laser deposition (PLD), chemical solution deposition (CSD), or by atomic **layer** epitaxy (ALE). A third monocrystalline **layer** comprises a compound semiconductor material, is epitaxially grown overlying the first **layer** . A portion of the third **layer** is removed to expose a portion of the first **layer** prior to epitaxially growing a second **layer** .

...

...Preferred Property: The monocrystalline **layer** is colossal **magnetoresistive** .

...

...Preferred Material: The substrate is silicon. The monocrystalline insulating **layer** comprises alkali earth metal titanates, zirconates, hafnates, tantalates, ruthenates, niobates and vanadates, tin based perovskite, lanthanum aluminate, lanthanum scandium oxide, gadolinium

oxide, gallium nitride, or aluminum nitride. The **magnetoresistive layer** comprises a manganite perovskite. The **magnetoresistive layer** may comprise a material having a composition (AxB1-xCO3, where A is a lanthanum or neodymium; B is strontium, barium, calcium, or **lead** ; x=0-1; C is manganese, MnyCo1-y, or MnzNi1-z; y, z=greater than

Title Terms: **MAGNETORESISTIVE** ;

**30/3,K/7 (Item 5 from file: 350)**

DIALOG(R)File 350:Derwent WPIX

(c) 2005 Thomson Derwent. All rts. reserv.

012947284 **Image available**

WPI Acc No: 2000-119134/200011

Related WPI Acc No: 2000-682182; 2001-083343

XRAM Acc No: C00-036854

XRPX Acc No: N00-090296

**Aluminum nitride film forming method for thin film magnetic head of hard disc drive - involves forming aluminum nitride film on one side of gap** layers **with crystal grains of mean diameter lying within preset range**

Patent Assignee: ALPS ELECTRIC CO LTD (ALPS )

Inventor: HAYAKAWA Y

Number of Countries: 003 Number of Patents: 004

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week | |
|---|---|---|---|---|---|---|---|
| JP 11306517 | A | 19991105 | JP 98114962 | A | 19980424 | 200011 | B |
| KR 99083410 | A | 19991125 | KR 9914437 | A | 19990422 | 200055 | |
| US 6307720 | B1 | 20011023 | US 99298634 | A | 19990423 | 200165 | |
| KR 321499 | B | 20020124 | KR 9914437 | A | 19990422 | 200254 | |

Priority Applications (No Type Date): JP 98114962 A 19980424; JP 98121425 A 19980430; JP 9937867 A 19990216

Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|---|---|---|---|---|---|
| JP 11306517 | A | | 11 | G11B-005/39 | |
| KR 99083410 | A | | | G11B-005/127 | |
| US 6307720 | B1 | | | G11B-005/127 | |
| KR 321499 | B | | | G11B-005/127 | Previous Publ. patent KR 99083410 |

... **involves forming aluminum nitride film on one side of gap** layers **with crystal grains of mean diameter lying within preset range**

...Abstract (Basic): NOVELTY - An **MR** element **layer** (3) is formed via a lower gap **layer** (2) on lower shield **layer** (1) and an upper shield **layer** (7) formed via upper gap **layer** (6) on **electrode layer** (5), respectively. The **electrode layer** is formed on the **MR** element **layer** to supply detection current. One side of the gap **layers** (2,6), an AlN film is formed and the mean diameter of crystal grains of...

...property is raised. Enhances hardness of AlN film since mean diameter of crystal grain and **lattice constant** of AlN film are set within preset range...

...S) - The figure shows the sectional view of thin-film magnetic head. (1,7) Shield **layers** ; (2,6) Gap **layers** ; (3) **MR** element **layer** ; (5) **Electrode layer** .

...Title Terms: **LAYER** ;

**30/3,K/8 (Item 6 from file: 350)**
DIALOG(R)File 350:Derwent WPIX
(c) 2005 Thomson Derwent. All rts. reserv.

010483030 **Image available**
WPI Acc No: 1995-384350/199550
XRPX Acc No: N95-281530

**Magnetic field sensor for thermal cycling applications with wide temperature variations - uses N-type epitaxial active** layer **of indium antimonide on elemental monocrystalline semiconductor substrate with interposed epitaxial compound semiconductor** layer **whose energy gap is higher than elemental substrate**

Patent Assignee: DELPHI TECHNOLOGIES INC (DELP-N); GENERAL MOTORS CORP (GENK )
Inventor: GREEN L; HEREMANS J P; PARTIN D L
Number of Countries: 006 Number of Patents: 004
Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week | |
|---|---|---|---|---|---|---|---|
| EP 682266 | A1 | 19951115 | EP 95200849 | A | 19950404 | 199550 | B |
| US 5491461 | A | 19960213 | US 94239772 | A | 19940509 | 199612 | |
| EP 682266 | B1 | 20010829 | EP 95200849 | A | 19950404 | 200150 | |
| DE 69522366 | E | 20011004 | DE 622366 | A | 19950404 | 200166 | |
| | | | EP 95200849 | A | 19950404 | | |

Priority Applications (No Type Date): US 94239772 A 19940509
Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|---|---|---|---|---|---|
| EP 682266 | A1 | E | 20 | G01R-033/09 | |
| Designated States (Regional): BE DE FR GB NL | | | | | |
| US 5491461 | A | | 17 | H01L-043/00 | |
| EP 682266 | B1 | E | | G01R-033/09 | |
| Designated States (Regional): BE DE FR GB NL | | | | | |
| DE 69522366 | E | | | G01R-033/09 | Based on patent EP 682266 |

... **uses N-type epitaxial active** layer **of indium antimonide on elemental monocrystalline semiconductor substrate with interposed epitaxial compound semiconductor** layer **whose energy gap is higher than elemental substrate**

...Abstract (Basic): The sensor includes a single **magnetoresistor** unit which comprises a rectangular epitaxial indium antimonide mesa **layer** (10) that is disposed on a high energy band gap epitaxial compound semiconductor **layer** (12). The semiconductor **layer** is a monocrystalline III-V compound material with an energy band gap which is higher than silicon and has a **lattice constant** between that of silicon and indium antimonide...

...The semiconductor **layer** is arranged on an intrinsic elemental semiconductor crystal body (14) e.g. a monocrystalline wafer of silicon or germanium. **Electrodes** (16, 18) are mounted on the mesa **layer** and an applied voltage difference subjects the intrinsic elemental semiconductor crystal to an electric field...

...Abstract (Equivalent): an epitaxial active **layer** about 1 to 5 mum thick of a compound semiconductor selected from the group consisting of indium antimonide and indium arsenide on the substrate surface portion, said compound semiconductor epitaxial **layer** being configured as an elongated mesa on said substrate surface portion and having an electron ...

...said **layer** being doped n-type such that it contains an excess density of electrons in said compound semiconductor epitaxial **layer** , said

excess density relatively stabilizing majority carrier density from about -40deg. C. to about 200deg...

...at least two electrical **conductors** respectively contacting spaced portions of said elongated compound semiconductor epitaxial mesa **layer** for applying a voltage difference between said spaced portions, which voltage difference would form an...
...Title Terms: **LAYER** ;

**30/3,K/9 (Item 7 from file: 350)**
DIALOG(R)File 350:Derwent WPIX
(c) 2005 Thomson Derwent. All rts. reserv.

010459042 **Image available**
WPI Acc No: 1995-360361/199547
Related WPI Acc No: 1998-161468
XRAM Acc No: C95-157556
XRPX Acc No: N95-267891
**Magnetic field sensor - incorporates epitaxial, magnetically active** layer **of ternary or quat. alloy of indium antimonide having a high electron mobility**
Patent Assignee: GENERAL MOTORS CORP (GENK )
Inventor: PARTIN D L R
Number of Countries: 005 Number of Patents: 001
Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week | |
|---|---|---|---|---|---|---|---|
| EP 678925 | A1 | 19951025 | EP 95200635 | A | 19950316 | 199547 | B |

Priority Applications (No Type Date): US 94228766 A 19940418
Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|---|---|---|---|---|---|
| EP 678925 | A1 | E | 18 | H01L-043/06 | |

Designated States (Regional): BE DE FR GB NL
... **incorporates epitaxial, magnetically active** layer **of ternary or quat. alloy of indium antimonide having a high electron mobility**

...Abstract (Basic): being of a material of a compatible crystal type with indium antimonide and having a **lattice constant** of at least about 5.4 angstroms; (b) a first epitaxial **layer** (12) disposed on the substrate surface of a first cpd. semiconductor material of compatible crystal type, the **layer** having a high crystal quality outer surface, the first cpd. semiconductor material having a **lattice constant** of at least about 6.3 angstroms and having a given energy band gap and electron mobility; (c) a second epitaxial **layer** (10) on the high quality crystalline outer surface of the first epitaxial **layer** , the second epitaxial **layer** being of a second cpd. semiconductor material of compatible crystal type, the second cpd. semiconductor material having a **lattice constant** closely matching that of the first cpd. semiconductor material but having a lower energy band gap and a higher electron mobility; (d) the second epitaxial **layer** (10) being an elongated mesa on the first epitaxial **layer** (12) and having a thickness not substantially greater than about 0.5 microns, (e) **electrical contacts** (16,18) to opposite ends of the mesa, to provide a magnetic field sensor having a magnetically active **layer** of not only high electron mobility but also of high sheet resistance, which affords lower...

...USE - Used in **magnetoresistors** , Hall effect sensors and MAGFETs...
...Title Terms: **LAYER** ;

**30/3,K/10 (Item 8 from file: 350)**
DIALOG(R)File 350:Derwent WPIX
(c) 2005 Thomson Derwent. All rts. reserv.

008308278 **Image available**
WPI Acc No: 1990-195279/199026
Related WPI Acc No: 1991-014719
XRPX Acc No: N90-151926

Magneto - resistive **sensor - has thin film of monocrystalline semiconductive material with a predetermined band gap giving an improvement in mobility of carriers**

Patent Assignee: GENERAL MOTORS CORP (GENK )
Inventor: HEREMANS J P; MORELLI D T; PARTIN D L
Number of Countries: 009 Number of Patents: 006
Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week | |
|---|---|---|---|---|---|---|---|
| EP 375107 | A | 19900627 | EP 89307120 | A | 19890713 | 199026 | B |
| JP 2194576 | A | 19900801 | JP 89203998 | A | 19890808 | 199037 | |
| CA 1303246 | C | 19920609 | CA 604133 | A | 19890628 | 199229 | |
| KR 9300825 | B1 | 19930205 | KR 8911297 | A | 19890808 | 199417 | |
| EP 375107 | B1 | 19951004 | EP 89307120 | A | 19890713 | 199544 | |
| DE 68924471 | E | 19951109 | DE 624471 | A | 19890713 | 199550 | |
| | | | EP 89307120 | A | 19890713 | | |

Priority Applications (No Type Date): US 88289646 A 19881223
Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|---|---|---|---|---|---|
| EP 375107 | A | | | | |
| Designated States (Regional): DE FR GB IT NL SE | | | | | |
| EP 375107 | B1 | E | 22 | H01L-043/08 | |
| Designated States (Regional): DE FR GB IT NL SE | | | | | |
| DE 68924471 | E | | | H01L-043/08 | Based on patent EP 375107 |
| CA 1303246 | C | | | H01L-043/00 | |
| KR 9300825 | B1 | | | H01L-043/00 | |

Magneto - resistive **sensor...**

...Abstract (Basic): is the entire area disposed between the shorter of two highly conductive portions in low **electrical** resistance **contact** .

...Abstract (Equivalent): A **magnetoresistor** -type sensor providing electrical output changes in response to changes in an applied magnetic field...

...a magnetic field applied perpendicularly to said film, said given conductivity type sensing area having **conductor** strips disposed along opposed long edges thereof, whereby said **conductor** strips are in low resistance electrical communication with said sensing area; in which sensor said...

...close to that of said monocrystalline semi-conductive thin film; said substrate has a crystal **lattice** **constant** close to that of said monocrystalline semi-conductive thin film at said interface; and said ...

...a given average current carrier density and a given average current carrier mobility; an accumulation **layer** in said thin film extends across said sensing area adjacent said face of said film, where said

current carriers can preferentially flow between said **conductor** strips along said opposed edges of said sensing area, which accumulation **layer** is induced without using externally-biased gate **electrodes** and is effective to provide an apparent increase in carrier mobility and concentration in said...

?

```
File   2:INSPEC 1969-2005/Jul W3
         (c) 2005 Institution of Electrical Engineers
File   6:NTIS 1964-2005/Jul W3
         (c) 2005 NTIS, Intl Cpyrght All Rights Res
File   8:Ei Compendex(R) 1970-2005/Jul W3
         (c) 2005 Elsevier Eng.  Info. Inc.
File  34:SciSearch(R) Cited Ref Sci 1990-2005/Jul W4
         (c) 2005 Inst for Sci Info
File  35:Dissertation Abs Online 1861-2005/Jul
         (c) 2005 ProQuest Info&Learning
File  62:SPIN(R) 1975-2005/May W3
         (c) 2005 American Institute of Physics
File  65:Inside Conferences 1993-2005/Jul W4
         (c) 2005 BLDSC all rts. reserv.
File  92:IHS Intl.Stds.& Specs. 1999/Nov
         (c) 1999 Information Handling Services
File  94:JICST-EPlus 1985-2005/Jun W1
         (c)2005 Japan Science and Tech Corp(JST)
File  95:TEME-Technology & Management 1989-2005/Jun W3
         (c) 2005 FIZ TECHNIK
File  99:Wilson Appl. Sci & Tech Abs 1983-2005/Jun
         (c) 2005 The HW Wilson Co.
File 144:Pascal 1973-2005/Jul W3
         (c) 2005 INIST/CNRS
File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
         (c) 1998 Inst for Sci Info
File 583:Gale Group Globalbase(TM) 1986-2002/Dec 13
         (c) 2002 The Gale Group
File 603:Newspaper Abstracts 1984-1988
         (c)2001 ProQuest Info&Learning
File 483:Newspaper Abs Daily 1986-2005/Jul 28
         (c) 2005 ProQuest Info&Learning

Set     Items   Description
S1    2175823   LEAD OR ELECTRODE?? OR CONDUCTOR?? OR ELECTRICAL(2N)CONTAC-
             T??
S2     603565   MR OR MAGNETO(2N)RESIST????? OR GMR OR CIP
S3     225521   READ???(2N)HEAD?? OR TRANSDUCER??
S4      10171   CUAU OR COPPER()GOLD?? OR COPPERGOLD?? OR CU()AU
S5      23527   NI()AL OR NICKELALUMINIUM OR NICKELALUMINUM OR NICKEL(N)(A-
             LUMINIUM?? OR ALUMINUM??)
S6      38537   FE()AL OR FEAL OR (IRON?? OR FERROUS??)()(ALUMINIUM?? OR A-
             LUMINUM) OR NIAL OR ALNI
S7     135979   B2(2N)STRUCTUR?? OR INTERMETALLIC?? OR INTER()METALLIC??
S8      22022   ORDER???(2N)(CRYSTALLIN?? OR CRYSTALIN?? OR LATTIC?? OR EP-
             ITAX?????)
S9        576   (HARD(3N)BIAS?? OR PERMANENT??(2N)MAGNET?? OR PM)(3N)LAYER-
             ??
S10     15296   EPITAX?????(7N)(MATCH??? OR SEED??? OR SELECT????)
S11      3257   S10(10N)LAYER??
S12     85401   LATTIC??(2N)CONSTANT??
S13      5971   AU=(PARKER, M? OR PARKER M? OR PINARBASI M? OR PINARBASI, -
             M?)
S14         0   S1 AND S2 AND S3 AND S4 AND S5 AND S6 AND S7 AND S8 AND S9
S15         0   S1 AND S2 AND S3 AND (S4 OR S5 OR S6 OR S7 OR S8) AND S9
S16         0   S1 AND S2 AND S3 AND (S4 OR S5 OR S6 OR S7 OR S8)
S17     13090   S1 AND (S4 OR S5 OR S6 OR S7 OR S8)
S18        29   S17 AND S2
S19        20   RD (unique items)
S20        19   S19 NOT PY>2003
S21       928   S1 AND S8
```

| | | |
|---|---|---|
| S22 | 0 | S21 AND S2 AND S3 |
| S23 | 0 | S21 AND S9 |
| S24 | 0 | S17 AND S9 |
| S25 | 2 | S17 AND (MAGNETIC??(2N)HEAD??) |
| S26 | 2 | RD (unique items) |
| S27 | 2 | S26 NOT S20 |
| S28 | 194 | S1 AND S11 |
| S29 | 0 | S28 AND S3 |
| S30 | 0 | S28 AND S2 |
| S31 | 0 | S28 AND (MAGNETIC??(2N)HEAD??) |
| S32 | 165793 | EPITAX?(5N)LAYER? |
| S33 | 3246 | S32 AND (S2 OR MAGNETORESIST?) |
| S34 | 18 | S33 AND S8 |
| S35 | 0 | S34 AND HEAD? |
| S36 | 30 | S33 AND HEAD?? |
| S37 | 0 | S36 AND S8 |
| S38 | 7 | S36 AND CRYSTAL? |
| S39 | 7 | RD (unique items) |
| S40 | 6 | S39 NOT (S19 OR S26) |
| S41 | 12 | S1 AND S2 AND (S11 OR S12) |
| S42 | 11 | RD (unique items) |
| S43 | 11 | S42 NOT (S19 OR S26 OR S40) |
| S44 | 2 | S13 AND S1 AND S2 |
| S45 | 2 | S44 NOT (S19 OR S26 OR S40 OR S43) |
| S46 | 2 | RD (unique items) |

**20/3,K/1 (Item 1 from file: 2)**
DIALOG(R)File 2:INSPEC
(c) 2005 Institution of Electrical Engineers. All rts. reserv.

7384631 INSPEC Abstract Number: A2002-21-7570P-011
**Title: Metamagnetism and giant magnetoresistance of the rare-earth** intermetallic **compounds R/sub 2/Ni/sub 2/Pb (R=Er,Ho,Dy)**
Author(s): Chinchure, A.D.; Sandoval, E.M.; Mydosh, J.A.
Author Affiliation: Kamerlingh Onnes Lab., Leiden Univ., Netherlands
Journal: Physical Review B (Condensed Matter and Materials Physics) vol.66, no.2 p.020409/1-4
Publisher: APS through AIP,
Publication Date: 1 July 2002 Country of Publication: USA
CODEN: PRBMDO ISSN: 0163-1829
SICI: 0163-1829(20020701)66:2L.1:MGMR;1-5
Material Identity Number: J673-2002-024
U.S. Copyright Clearance Center Code: 0163-1829/2002/66(2)/020409(4)/$20.00
Language: English
Subfile: A
Copyright 2002, IEE

**Title: Metamagnetism and giant magnetoresistance of the rare-earth** intermetallic **compounds R/sub 2/Ni/sub 2/Pb (R=Er,Ho,Dy)**
...Abstract: the magnetization and magnetoresistance for a series of rare-earth (R=Er,Ho,Dy) plumbide **intermetallic** compounds, R/sub 2/Ni/sub 2/Pb. These materials form in an unusual orthorhombic...
...Descriptors: **lead** alloys
...Identifiers: **GMR** ; ...

...rare-earth **intermetallic** compounds

**20/3,K/2 (Item 2 from file: 2)**
DIALOG(R)File 2:INSPEC
(c) 2005 Institution of Electrical Engineers. All rts. reserv.

7286475 INSPEC Abstract Number: A2002-14-7450-003
**Title: Magnetoresistance study in** Ni - Al **-Ni and Al-** Ni - Al **tunneling junction systems**
Author(s): Chen, C.D.; Yao, Y.D.; Lee, S.F.; Chung, D.S.
Author Affiliation: Inst. of Phys., Acad. Sinica, Taipei, Taiwan
Journal: Journal of Magnetism and Magnetic Materials Conference Title: J. Magn. Magn. Mater. (Netherlands) vol.239, no.1-3 p.112-15
Publisher: Elsevier,
Publication Date: Feb. 2002 Country of Publication: Netherlands
CODEN: JMMMDC ISSN: 0304-8853
SICI: 0304-8853(200202)239:1/3L.112:MSTJ;1-U
Material Identity Number: J271-2002-004
U.S. Copyright Clearance Center Code: 0304-8853/02/$22.00
Conference Title: International Symposium on Physics of Magnetic Materials/ International Symposium on Advanced Magnetic Technologies (ISPMM/ISAMT2001)
Conference Date: 13-16 May 2001 Conference Location: Taipei, Taiwan
Language: English
Subfile: A
Copyright 2002, IEE
**Title: Magnetoresistance study in** Ni - Al **-Ni and Al-** Ni - Al **tunneling junction systems**
Abstract: Magnetoresistance ( **MR** ) in **Ni** - **Al** -Ni and Al- **Ni** - **Al**

tunneling junction systems have been studied at temperatures between 40 mK and 4 K and in magnetic fields up to 3 T. In **Ni** - **Al** -Ni system, the resistance increases with increasing applied magnetic field at low fields. This is a typical anisotropy **MR** for ferromagnetic Ni wire **electrodes** . The resistance starts to decrease on increasing the magnetic field to roughly around 1.5...

...2/O/sub 3/ tunneling junctions is roughly proportional to 0.2 mV. In Al- **Ni** - **Al** system, the variation of **MR** can be understood by the same H/sub c/ mechanism. However, the anisotropy **MR** was not observed due to our experimental limitation of error. The anisotropy **MR** of the Ni **electrode** wires in **Ni** - **Al** -Ni case, and **MR** variation due to the H/sub c/ of the Al island in **Ni** - **Al** -Ni case and Al **electrodes** in Al **Ni** - **Al** case has been experimentally observed. Finally, this study provides us with a powerful method to...

...Identifiers: Al- **Ni** - **Al** tunneling junction systems...

... **Ni** - **Al** -Ni tunneling junction systems...

...ferromagnetic Ni wire **electrodes** ; ...

... **Ni** - **Al** -Ni...

...Al- **Ni** - **Al**

**20/3,K/3 (Item 3 from file: 2)**
DIALOG(R)File 2:INSPEC
(c) 2005 Institution of Electrical Engineers. All rts. reserv.

6995966 INSPEC Abstract Number: A2001-17-7530K-013
**Title: Multiple magnetic transitions in Er/sub 2/Ni/sub 2/Pb**
Author(s): Chinchure, A.D.; Munoz-Sandoval, E.; Mydosh, J.A.
Author Affiliation: Kamerlingh Onnes Lab., Leiden Univ., Netherlands
Journal: Physical Review B (Condensed Matter and Materials Physics) vol.64, no.2 p.020404/1-4
Publisher: APS through AIP,
Publication Date: 1 July 2001 Country of Publication: USA
CODEN: PRBMDO ISSN: 0163-1829
SICI: 0163-1829(20010701)64:2L.1:MMTE;1-X
Material Identity Number: J673-2001-025
U.S. Copyright Clearance Center Code: 0163-1829/2001/64(2)/020404(4)/$20.00
Language: English
Subfile: A
Copyright 2001, IEE

...Abstract: bulk properties for one (Er) of a series of ternary, heavy rare-earth, 221 "plumbide" **intermetallic** compounds R/sub 2/Ni/sub 2/Pb (R=rare earths). These materials form in...
... Mn/sub 2/AlB/sub 2/ compounds. Our results of susceptibility, magnetization, heat capacity, and ( **magneto** ) **resistivity** on Er/sub 2/Ni/sub 2/Pb show (sharp) multiple antiferromagnetic transitions and strong...
...Descriptors: **lead** alloys

**20/3,K/4 (Item 4 from file: 2)**
DIALOG(R)File 2:INSPEC
(c) 2005 Institution of Electrical Engineers. All rts. reserv.

6869602 INSPEC Abstract Number: A2001-08-7340R-002, B2001-04-2530G-003
**Title: Magnetic tunnel junctions with single-crystal** electrodes **: a crystal anisotropy of tunnel** magneto - resistance
Author(s): Yuasa, S.; Sato, T.; Tamura, E.; Suzuki, Y.; Yamamori, H.; Ando, K.; Katayama, T.
Author Affiliation: Electrotech. Lab., Tsukuba, Japan
Journal: Europhysics Letters vol.52, no.3 p.344-50
Publisher: Eur. Phys. Soc. by EDP Sciences and Soc. Italiana Fisica,
Publication Date: 1 Nov. 2000 Country of Publication: France
CODEN: EULEEJ ISSN: 0295-5075
SICI: 0295-5075(20001101)52:3L.344:MTJW;1-D
Material Identity Number: G429-2000-024
Language: English
Subfile: A B
Copyright 2001, FIZ Karlsruhe

**Title: Magnetic tunnel junctions with single-crystal** electrodes **: a crystal anisotropy of tunnel** magneto - resistance
Abstract: A strong dependence of tunnel magnetoresistance (TMR) on the crystal orientation of ferromagnetic **electrodes** was confirmed experimentally. We studied the TMR of **Fe / Al** /sub 2/O/sub 3//Fe/sub 50/Co/sub 50/ tunnel junctions with single-crystal Fe **electrodes** of different crystal orientations and found that the TMR ratio increased from 13% to 42...
...Identifiers: single-crystal Fe **electrodes** ; ...

... **Fe - Al** /sub 2/O/sub 3/-Fe/sub 50/Co/sub 50

**20/3,K/5 (Item 5 from file: 2)**
DIALOG(R)File 2:INSPEC
(c) 2005 Institution of Electrical Engineers. All rts. reserv.

6235941 INSPEC Abstract Number: A1999-11-7570C-042
**Title: Interface structures and magnetoresistance in magnetic tunnel junctions**
Author(s): Mitsuzuka, T.; Matsuda, K.; Kamijo, A.; Tsuge, H.
Author Affiliation: Functional Mater. Res. Labs., NEC Corp., Kawasaki, Japan
Journal: Journal of Applied Physics Conference Title: J. Appl. Phys. (USA) vol.85, no.8 p.5807-9
Publisher: AIP,
Publication Date: 15 April 1999 Country of Publication: USA
CODEN: JAPIAU ISSN: 0021-8979
SICI: 0021-8979(19990415)85:8L.5807:ISMM;1-0
Material Identity Number: J004-1999-006
U.S. Copyright Clearance Center Code: 0021-8979/99/85(8)/5807(3)/$15.00
Conference Title: 43rd Annual Conference on Magnetism and Magnetic Materials
Conference Date: 9-12 Nov. 1998 Conference Location: Miami, FL, USA
Language: English
Subfile: A
Copyright 1999, IEE
...Abstract: junctions were studied using X-ray photoelectron spectroscopy (XPS). The structures were correlated with magnetoresistance ( **MR** ) characteristics. For **MR** measurements, Fe(50 nm)/AlO/sub x//CoFe(30 nm) junctions with an in situ...

... Al tunnel barrier were fabricated. The thickness of the Al layer, an

important parameter in **MR** characteristics, was varied from 0 to 5 nm. **MR** curves showed that the largest **MR** ratio occurred when the Al layers were 2-3 nm in thickness. XPS analysis showed...

... the thickness is increased. For Al layers that are greater than 3 nm thick, the **MR** ratio is strongly affected by unoxidized Al, probably due to the decrease in spin polarization at the surface of an **Fe / Al electrode** . On the other hand, the hysteresis loops indicate that the difference in coercive force between...

... due to the gradual increase of the ferromagnetic coupling between them. As a result, the **MR** ratio decreases, although a 1-nm-thick Al layer seems to be enough to cover...

**20/3,K/6 (Item 6 from file: 2)**
DIALOG(R)File 2:INSPEC
(c) 2005 Institution of Electrical Engineers. All rts. reserv.

6167836 INSPEC Abstract Number: A1999-06-7570P-014
**Title: Sub-200 Oe giant magnetoresistance in manganite tunnel junctions**
Author(s): Xiao, G.; Gupta, A.; Li, X.W.; Gong, G.Q.; Sun, J.Z.
Author Affiliation: Dept. of Phys., Brown Univ., Providence, RI, USA
Conference Title: Science and Technology of Magnetic Oxides Symposium p.221-30
Editor(s): Hundley, M.F.; Nickel, J.H.; Ramesh, R.; Tokura, Y.
Publisher: Mater. Res. Soc, Warrendale, PA, USA
Publication Date: 1998 Country of Publication: USA xiii+360 pp.
Material Identity Number: XX-1998-01330
Conference Title: Science and Technology of Magnetic Oxides Symposium
Conference Date: 1-4 Dec. 1997 Conference Location: Boston, MA, USA
Language: English
Subfile: A
Copyright 1999, IEE

...Abstract: result of the strong interplay inherent in this class of materials among electronic structure, magnetic **ordering** , and **lattice** dynamics. Though fundamentally interesting, the CMR effect achieved only at large fields poses severe technological...
... objectives of our research effort involving manganite materials is to reduce the field scale of **MR** by designing and fabricating tunnel junctions and other structures rich in magnetic domain walls. The junction **electrodes** were made of doped manganite epitaxial films, and the insulating barrier of SrTiO/sub 3...

... a self-aligned lithographic process to pattern the junctions to micron scale in size. Large **MR** values close to 250% at low fields of a few tens of Oe have been...

... the spin-dependent transport is due to the spin-polarized tunneling between the half-metallic **electrodes** , in which the spins of the conduction electrons are nearly fully polarized. We will present results of field and temperature dependence of **MR** in these structures and discuss the electronic structure of the manganite inferred from tunneling measurement. Results of large **MR** at low fields due to the grain-boundary effect will also be presented.
...Identifiers: half-metallic **electrodes** ;

**20/3,K/7 (Item 7 from file: 2)**

DIALOG(R)File 2:INSPEC
(c) 2005 Institution of Electrical Engineers. All rts. reserv.

5002313 INSPEC Abstract Number: A9516-7215G-009
**Title:** GMR **effects in actinide** intermetallics
Author(s): Sechovsky, V.; Havela, L.; Nakotte, H.; Prokes, K.; Brueck, E. ; De Boer, F.R.
Author Affiliation: Dept. of Metal Phys., Charles Univ., Prague, Czech Republic
Journal: Physica B Conference Title: Physica B (Netherlands) vol.206-207, no.1-4 p.501-4
Publication Date: Feb. 1995 Country of Publication: Netherlands
CODEN: PHYBE3 ISSN: 0921-4526
U.S. Copyright Clearance Center Code: 0921-4526/95/$09.50
Conference Title: International Conference on Strongly Correlated Electron Systems. SCES '94
Conference Date: 15-18 Aug. 1994 Conference Location: Amsterdam, Netherlands
Language: English
Subfile: A
Copyright 1995, FIZ Karlsruhe

**Title:** GMR **effects in actinide** intermetallics
...Abstract: reduced to values typical for ferromagnets. We demonstrate on selected UTX compounds that in actinide **intermetallics** this can **lead** to giant magnetoresistance ( **GMR** ) effects ( Delta rho / rho /sub ↑2;/>100%). This huge effect is presumably due to a strong hybridization of the 5f and conduction-electron states. **GMR** effects, observed in compounds like UNiGe and UPdSn, show that this phenomenon is not strictly...

... for the current along the AF propagation of the magnetic structure. The size of the **GMR** is closely connected to the change of magnetic periodicity induced by the applied magnetic field.
Identifiers: actinide **intermetallics** ;

**20/3,K/8 (Item 1 from file: 6)**
DIALOG(R)File 6:NTIS
(c) 2005 NTIS, Intl Cpyrght All Rights Res. All rts. reserv.

1761625 NTIS Accession Number: PB93-235869
**Minerals Yearbook, 1991: Silver**
(Annual rept)
Reese, R. G.
Bureau of Mines, Washington, DC.
Corp. Source Codes: 004975000
Dec 92 29p
Languages: English
Journal Announcement: GRAI9324
See also report for 1989, PB91-221663.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)321-8547; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.
NTIS Prices: PC A03/MF A01

**Mr** . Reese, a physical scientist with the Branch of Metals, has been the commodity specialist for...

... of U.S. operations. Typical of these surveys was the lode mine production survey of **copper** , **gold** , **lead** , silver, and zinc. Of the 141 silver-producing lode mines to which a survey form...

**20/3,K/9 (Item 1 from file: 34)**
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci
(c) 2005 Inst for Sci Info. All rts. reserv.

03238266 Genuine Article#: NN734 No. References: 10
**Title: MAGNETIC AND MICROSTRUCTURAL PROPERTIES OF COCRPT/COCRPTSI DUAL-LAYERED MAGNETIC RECORDING MEDIA**
Author(s): INABA N; MATSUDA Y; SUZUKI M; NAKAMURA A; FUTAMOTO M
Corporate Source: HITACHI LTD,CENT RES LAB,HIGASHI KOIGAKUBO 1-280/KOKUBUNJI/TOKYO 180/JAPAN/
Journal: JOURNAL OF APPLIED PHYSICS, 1994, V75, N10 (MAY 15), P6126-6128
ISSN: 0021-8979
Language: ENGLISH Document Type: ARTICLE (Abstract Available)

...Abstract: as large as that of single-layered CoCrPtSi. This large anisotropy energy is presumed to **lead** the increase of H(c) in the dual-layered magnetic films.
...Research Fronts: FADING MOBILE SATELLITE CHANNELS; CODE PERFORMANCE IN DIGITAL MAGNETIC RECORDING; CODING USING PRECODING; TRELLIS SHAPING; **MR** INDUCTIVE HEAD)
92-1360 001 (NUCLEATION FIELDS OF HARD MAGNETIC PARTICLES; MELT-SPUN ND-FE-B RIBBONS; RARE-EARTH TRANSITION-METAL **INTERMETALLICS** ; BARIUM FERRITE; ND2FE14B ALLOY)
92-3926 001 (PERPENDICULAR MAGNETIC RECORDING MEDIA; THIN-FILM DISKS; REVERSE...

**20/3,K/10 (Item 1 from file: 62)**
DIALOG(R)File 62:SPIN(R)
(c) 2005 American Institute of Physics. All rts. reserv.

00945264
**Multiple magnetic transitions in Er SUB(2)Ni SUB(2)Pb<secthead><hd1>RAPID COMMUNICATIONS</hd1> <hd2>Magnetism</hd2> </secthead>**
Chinchure, Aravind D. ; Mun (Tilde) oz-Sandoval, E. ; Mydosh, J. A.
Kamerlingh Onnes Laboratory, Leiden University, 2300 RA Leiden, The Netherlands
PHYS REV B; 64(2),020404-020404-4 (1 Jul. 2001) CODEN: PRBMD

... bulk properties for one (Er) of a series of ternary, heavy rare-earth, 221 "plumbide" **intermetallic** compounds R SUB(2)Ni SUB(2)Pb (R=rare earths). These materials form in...

... Mn SUB(2)AlB SUB(2) compounds. Our results of susceptibility, magnetization, heat capacity, and ( **magneto** ) **resistivity** on Er SUB(2)Ni SUB(2)Pb show (sharp) multiple antiferromagnetic transitions and strong...
Descriptors: erbium alloys ; nickel alloys ; **lead** alloys ; magnetic transitions ; antiferromagnetic materials ; magnetisation ; magnetic susceptibility ; specific heat ; magnetoresistance

**20/3,K/11 (Item 2 from file: 62)**
DIALOG(R)File 62:SPIN(R)
(c) 2005 American Institute of Physics. All rts. reserv.

00830927

**Interface structures and magnetoresistance in magnetic tunnel junctions**

Mitsuzuka, T. ; Matsuda, K. ; Kamijo, A. ; Tsuge, H.

Functional Materials Research Laboratories, NEC Corporation, Miyazaki 4-1-1, Miyamae-ku, Kawasaki, Kanagawa 216-8555, Japan

J. APPL. PHYS.; 85(8),5807-5809 (15 Apr. 1999) CODEN: JAPIA

... junctions were studied using x-ray photoelectron spectroscopy (XPS). The structures were correlated with magnetoresistance ( **MR** ) characteristics. For **MR** measurements, Fe(50&hthinsp;nm)/AlO SUB(x)/CoFe(30&hthinsp;nm) junctions with an...

... Al tunnel barrier were fabricated. The thickness of the Al layer, an important parameter in **MR** characteristics, was varied from 0 to 5 nm. **MR** curves showed that the largest **MR** ratio occurred when the Al layers were 2-3 nm in thickness. XPS analysis showed...

... the thickness is increased. For Al layers that are greater than 3 nm thick, the **MR** ratio is strongly affected by unoxidized Al, probably due to the decrease in spin polarization at the surface of an **Fe / Al electrode** . On the other hand, the hysteresis loops indicate that the difference in coercive force between...

... due to the gradual increase of the ferromagnetic coupling between them. As a result, the **MR** ratio decreases, although a 1-nm-thick Al layer seems to be enough to cover...

Descriptors: **iron** ; **aluminium compounds** ; cobalt alloys ; iron alloys ; interface magnetism ; X-ray photoelectron spectra ; interface structure ; magnetoresistance ; magnetic...

**20/3,K/12 (Item 3 from file: 62)**

DIALOG(R)File 62:SPIN(R)

(c) 2005 American Institute of Physics. All rts. reserv.

00012553

**Electrical** resistivity **and** magneto **(hyphen)** resistivity **of very dilute Cu(hyphen)Cr alloys**

Legvold, S.; Burgardt, P.; Peterson, D. T.; Vyrostek, T. A.; Schaefer, J. A.

Ames LaboratoryhUSAEC and Departments of Physics and Metallurgy, Iowa State University, Ames, Iowa 50010; Johns Hopkins University, Applied Physics Laboratory, Silver Spring, Maryland 20910; Physics Department, Loras College, Dubuque, Iowa 52001

AIP Conf. Proc.; 24,455-455 (APR. 1975) CODEN: APCPC

**Electrical** resistivity **and** magneto **(hyphen)** resistivity **of very dilute Cu(hyphen)Cr alloys**

... 02, 1.055, 1.095, and 0.992 n(Omega) cm/ppm Cr. These data **lead** to an equation (rho)SUB(o)/c =1.065-0.0008c which works well up...

... experimental data because it is necessary to eliminate the normal positive magnetoresistance of the host **lattice** . In **order** to obtain this positive part, the magnetoresistance of each sample was measured at 25 K...

**20/3,K/13 (Item 1 from file: 94)**

DIALOG(R)File 94:JICST-EPlus

(c)2005 Japan Science and Tech Corp(JST). All rts. reserv.

03422961 JICST ACCESSION NUMBER: 98A0048123 FILE SEGMENT: JICST-E
**Availability of TiAl** Electrode **Made by Sintering Mixed Powders of Ti and Al to Use for Rotating** Electrode **Process.**
KUMAGAE RYOHEI (1); YOSHITAKE MASAMI (1); IWATSU OSAMU (1); HIDAKA KENSUKE (1)
(1) Fukuda Met. Foil & Powder Co., Ltd.
Funtai oyobi Funmatsu Yakin(Journal of the Japan Society of Powder and Powder Metallurgy), 1997, VOL.44,NO.11, PAGE.1055-1060, FIG.8, TBL.1, REF.6
JOURNAL NUMBER: F0691AAD ISSN NO: 0532-8799 CODEN: FOFUA
UNIVERSAL DECIMAL CLASSIFICATION: 621.762.3/.8
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Original paper
MEDIA TYPE: Printed Publication

**Availability of TiAl** Electrode **Made by Sintering Mixed Powders of Ti and Al to Use for Rotating** Electrode **Process.**
ABSTRACT: TiAl **electrode** was made by sintering of CIPed compact with Ti and Al mixed powder at the temperature of 1673K. The **electrode** made by this method was composed of fully lameller structure of Ti3Al and TiAl **intermetallic** compounds without a trace of Ti or Al metallic residue. As the results of testing this **electrode** for plasma rotating **electrode** process(PREP) in helium gas atmosphere, it was seen that powders obtained have the same...

...as particle sphericity, particle size distribution and chemical compositions, as powders produced by using the **electrode** prepared from the melting ingot. PREPed Ti-Al powders consist of two kinds of particles...
...DESCRIPTORS: rotating **electrode** ; ...

... **CIP** (pressing...

... **intermetallic** compound
...BROADER DESCRIPTORS: **electrode** ;

**20/3,K/14 (Item 1 from file: 144)**
DIALOG(R)File 144:Pascal
(c) 2005 INIST/CNRS. All rts. reserv.

16487211 PASCAL No.: 04-0131386
**Temperature and bias voltage dependence of Co-Fe-AlO SUB X -Py-AlO SUB X -Co-Fe double-barrier junctions**
**Selected Papers from the 2003 International Magnetics Conference (INTERMAG 2003), Boston Marriott Copley Place, Boston, MA, March 30-April 3, 2003**
THOMAS Andy; BRUECKL Hubert; SCHMALHORST Jan; REISS Guenter
Department of Physics, Nano Device Group, University of Bielefeld, 33501 Bielefeld, Germany
INTERMAG 2003 International Magnetics Conference (Boston, MA USA) 2003-03-30
Journal: IEEE transactions on magnetics, 2003, 39 (5 PART2) 2821-2823
Language: English

Copyright (c) 2004 INIST-CNRS. All rights reserved.

... barriers are investigated with respect to the temperature and bias voltage dependence of the tunneling **magneto resistance** . The single-barrier junctions show a tunneling magnetoresistance ratio of up to 49% at room...
... by ballistic electrons in double-barrier junctions, but only if the potential of the middle **electrode** can be shifted.

English Descriptors: Polarization potential; Temperature dependence; Tunnel junction; Cobalt; **Iron** ; **Aluminium oxide** ; Magnetic device; Magnetoresistance; Experimental study

**20/3,K/15 (Item 2 from file: 144)**
DIALOG(R)File 144:Pascal
(c) 2005 INIST/CNRS. All rts. reserv.

16487206 PASCAL No.: 04-0131381
**Microfabrication of magnetic tunnel junctions using Al as bottom conduction** electrode
**Selected Papers from the 2003 International Magnetics Conference (INTERMAG 2003), Boston Marriott Copley Place, Boston, MA, March 30-April 3, 2003**
HAN X F; LI F F; WANG W N; ZHAO S F; PENG Z L; YAO Y D; ZHAN W S; HAN B S
State Key Laboratory of Magnetism, Institut of Physics, Chinese Academy of Science, Beijing, 100080, China; Institute of Physics, Academia Sinica, Taipei, Taiwan
INTERMAG 2003 International Magnetics Conference (Boston, MA USA) 2003-03-30
Journal: IEEE transactions on magnetics, 2003, 39 (5 PART2) 2794-2796
Language: English

Copyright (c) 2004 INIST-CNRS. All rights reserved.

**Microfabrication of magnetic tunnel junctions using Al as bottom conduction** electrode
...SUB 1 (20 nm)/Ta(5 nm) were fabricated using Al as a conduction layer/ **electrode** and lithographic methods. A high **magneto - resistance** ratio of 16% and 45% and resistance-area product RS of 11.8 k OMEGA...

English Descriptors: Tunnel junction; Magnetic storage; Magnetoresistive device; Tantalum; **Aluminium** ; **Nickel base alloys** ; Iron alloy; Binary alloy; Manganese alloy; Iridium alloy; Magnetoresistance; Coercive force; Random access...

**20/3,K/16 (Item 3 from file: 144)**
DIALOG(R)File 144:Pascal
(c) 2005 INIST/CNRS. All rts. reserv.

15680379 PASCAL No.: 02-0387295
**Transmission electron microscopy study of thermally annealed low resistance magnetic tunnel junction**
KYUNG H; LEE J H; YOON C S; KIM C K
Department of Materials Science and Engineering, Hanyang University, Seoul 133-791, Korea, Republic of
Journal: Physica status solidi. A. Applied research, 2002, 191 (1) 296-304
Language: English

Copyright (c) 2002 INIST-CNRS. All rights reserved.

... While the Al (7.7 A)-oxide junction showed a continuous increase in the magnetoresistance ( **MR** ) ratio, reaching the maximum of 48% at 300 Degree C, the Al (6.6 A...

... showed a moderate enhancement at 250 Degree C and then a sharp drop in the **MR** ratio at 275 Degree C. Transmission electron microscopy revealed, prior to the heat treatment, rough...

... annealing process made the oxide interfaces sharper, but also caused microstructural alteration of the bottom **electrode** . While the smoother oxide interface appears to be beneficial to the TMR effect, the Al (6.6 A)-oxide junction was susceptible to the localized short-circuiting of the **electrodes** and the thermal treatment would promote such short-circuiting leading to the marked drop in the **MR** ratio. We have shown that the thermal treatment of the multi-layer tunnel junctions can...

... electrical properties depending on the insulator thickness due to changes in the oxide interface and **electrode** microstructure; hence, it would be critical to control the oxide thickness and roughness as well as the **electrode** microstructure during the deposition process.

...French Descriptors: Ta; Alliage FeNi; Fe Ni; Alliage IrMn; 6837L; 7340G; 8570K; Ir Mn; Alliage CoFe; Co **Fe** ; **Al**

**20/3,K/17 (Item 4 from file: 144)**
DIALOG(R)File 144:Pascal
(c) 2005 INIST/CNRS. All rts. reserv.

15112095 PASCAL No.: 01-0272607
**Multiple magnetic transitions in Er SUB 2 Ni SUB 2 Pb**
CHINCHURE Aravind D; MUNOZ SANDOVAL E; MYDOSH J A
Kamerlingh Onnes Laboratory, Leiden University, 2300 RA Leiden, The Netherlands
Journal: Physical review. B, Condensed matter and materials physics, 2001-07-01, 64 (2) 020404-020404-4
Language: English

Copyright (c) 2001 American Institute of Physics. All rights reserved.

...bulk properties for one (Er) of a series of ternary, heavy rare-earth, 221 plumbide **intermetallic** compounds R SUB 2 Ni SUB 2 Pb (R=rare earths). These materials form in...

... Mn SUB 2 AlB SUB 2 compounds. Our results of susceptibility, magnetization, heat capacity, and ( **magneto** ) **resistivity** on Er SUB 2 Ni SUB 2 Pb show (sharp) multiple antiferromagnetic transitions and strong...

English Descriptors: Experimental study; Erbium alloys; Nickel alloys; **Lead** alloys; Magnetic transitions; Antiferromagnetic materials; Magnetization; Magnetic susceptibility; Specific heat; Magnetoresistance

**20/3,K/18 (Item 5 from file: 144)**
DIALOG(R)File 144:Pascal
(c) 2005 INIST/CNRS. All rts. reserv.

14365724 PASCAL No.: 00-0017807
MR **behavior in tunneling junctions with a nonmagnetic metal layer**

**between barrier and** electrode
**1999 International Magnetics Conference, INTERMAG '99, Kyongju, Korea, May 18-21, 1999. Part I**
YAMANAKA H; SAITO K; TAKANASHI K; FUJIMORI H
RAMANAN V R, ed; WELLER Dieter, ed; TAEK DONG LEE, ed; BULARZIK Joseph H, ed; INOMATA Koichiro, ed; SUNG-CHUL SHIN, ed; PETRIE Edward M, ed; MIURA Yoshimasa, ed; PASQUALE Massimo, ed; COCHRAN Dewey E, ed
Read-Rite SMI Co., 2-15-17 Egawa, Shimamoto-cho, Osaka, 618-0013, Japan; Institute for Material Research, Tohoku Univ., 2-1-1 Katahira, Aoba-ku, Sendai, 980-8577, Japan
ABB Power T&D Company, United States; IBM, United States; Korea Advanced Institute of Science and Technology, Korea, Republic of; Magnetics International, United States; Toshiba Corporation, Japan; Fujitsu Limited, Japan; Istituto Elletrotecnico Nazionale Galileo Ferraris, Italy; Naval Research Laboratory, United States
The Korean Magnetics Society, Korea, Republic of.; IEEE. Magnetics Society, United States.
1999 International Magnetics Conference (INTERMAG '99) (Kyongju KOR) 1999-05-18
Journal: IEEE transactions on magnetics, 1999, 35 (5 PART1) 2883-2885
Language: English

Copyright (c) 2000 INIST-CNRS. All rights reserved.

MR **behavior in tunneling junctions with a nonmagnetic metal layer between barrier and** electrode

English Descriptors: Tunnel junction; Magnetoresistance; Bias voltage; Copper; Ferromagnetic materials; Thin films; **Iron** ; **Aluminium** ; Cobalt; Multilayer; Experimental study

**20/3,K/19 (Item 1 from file: 483)**
DIALOG(R)File 483:Newspaper Abs Daily
(c) 2005 ProQuest Info&Learning. All rts. reserv.

04840352
**Bre-X Mystery Still Eludes Solution, but the Leads Grow**
Waldman, Peter; Solomon, Jay
Wall Street Journal, Sec A, p 6, col 3
Dec 30, 1997
ISSN: 0099-9660 NEWSPAPER CODE: WSJ
DOCUMENT TYPE: Feature; Newspaper
LANGUAGE: English RECORD TYPE: ABSTRACT
LENGTH: Long (18+ col inches)

...ABSTRACT: engineer Manny Puspos, calling his boss in Jakarta to ask if geologists from Freeport-McMoRan **Copper** & **Gold** Inc., the big New Orleans-based mining firm, could take a particular rock sample to...

...the island of Borneo, for a planned joint venture with Bre-X of Calgary, Alberta. **Mr** . de Guzman, before leaving for a mining conference in Toronto earlier in the month, had...

...Bre-X jigsaw puzzle are falling into place. Two Filipino Brothers All roads from Busang **lead** back to the leafy Philippine town of Desmarinas, which Manny Puspos and his older brother, Cesar, call home. Cesar Puspos, 36 years old, was **Mr** . de Guzman's righthand man. A quiet geologist with an excellent work record prior to joining Bre-X, Cesar was credited by the brash **Mr** . de Guzman with "discovering" the so-called mother lode in

Busang's southeastern zone. While **Mr** . de Guzman spent much of his time island-hopping among Bre-X's several Indonesian...
?

**27/3,K/1 (Item 1 from file: 8)**
DIALOG(R)File 8:Ei Compendex(R)
(c) 2005 Elsevier Eng. Info. Inc. All rts. reserv.

03057695 E.I. Monthly No: EI9105055543
**Title: Development of bonding low-melting glass for** magnetic head .
Author: Kijima, Takeshi; Sakaguchi, Hideto; Satou, Yasuhito; Fujine, Toshiyuki; Tanaka, Toshihisa; Hara, Takanori; Enomoto, Akihito; Himeshima, Katsuyuki; Kimura, Takashi
Source: Shapu Giho/Sharp Technical Journal n 47 Dec 1990 p 57-63
Publication Year: 1990
CODEN: STEJD9 ISSN: 0285-0362
Language: Japanese

**Title: Development of bonding low-melting glass for** magnetic head .
Abstract: The bonding low-melting **lead** glass has been developed for metal head to meet requests of higher-density and broader...

...resistance and moisture proof. Thus we find that this glass is suitable for FeAlSi alloy **heads** without degradating **magnetic** quality of metal membrane, and for amorphous alloy ones too. (Author abstract) 19 Refs. In ...
Descriptors: ***MAGNETI** C **HEADS** --*
Identifiers: LOW-MELTING GLASS BONDING; BROAD-BAND MAGNETIC RECORDING; **IRON ALUMINUM** SILICON **MAGNETIC HEADS**

**27/3,K/2 (Item 1 from file: 35)**
DIALOG(R)File 35:Dissertation Abs Online
(c) 2005 ProQuest Info&Learning. All rts. reserv.

01915066 ORDER NO: AADAA-I3068210
**Synthesis and characterization of soft magnetic thin films, nanocomposites, and nanowires by electrodeposition**
Author: Shao, Xiaoyan
Degree: Ph.D.
Year: 2003
Corporate Source/Institution: The Johns Hopkins University (0098)
Source: VOLUME 63/10-B OF DISSERTATION ABSTRACTS INTERNATIONAL. PAGE 4853. 144 PAGES
ISBN: 0-493-87761-4

...bearings and transformers of aircraft engines and have recently been considered for applications such as **magnetic** recording write **heads** and MEMS devices. High quality FeCo thin films were electrodeposited from sulfamate-based solutions. The...

...to modify the properties of the matrix, such as mechanical properties and magnetic properties. Nanocomposite **Ni / Al** <sub>2</sub>O<sub>3</sub> and FeCo/TiO<sub> 2</sub> were electrodeposited...

...nanoparticles in aqueous Ni or FeCo electrolytes. The volume fraction of particles incorporated increased with **electrode** rotation rate and decreased with deposition current density. A kinetic model based on convective diffusion...
?

**40/3,K/1 (Item 1 from file: 2)**
DIALOG(R)File 2:INSPEC
(c) 2005 Institution of Electrical Engineers. All rts. reserv.

6459233 INSPEC Abstract Number: A2000-03-7570-015
**Title: Exploring the limits of functional modification of thin magnetic films**
Author(s): Schirmer, B.
Issued by: Forschungszentrum Julich, Germany
Publication Date: March 1999 Country of Publication: Germany x+170 pp.
Material Identity Number: XR-1999-00520
Report Number: JUL-3641
Language: German
Subfile: A
Copyright 2000, FIZ Karlsruhe

...Abstract: magnetic films have recently gained considerable interest. Such films show new phenomena such as giant **magneto - resistance** and oscillatory exchange coupling which enable new devices and applications. The significance of these effects...

... structural and magnetic properties is essential. Unfortunately the sequence of layers in present magnetic sensor **heads** is too complex to isolate the influence of a specific interface. So the only promising...
...Descriptors: magnetic **epitaxial layers** ; ...

...metallic **epitaxial layers** ;
...Identifiers: **crystal** structure

**40/3,K/2 (Item 1 from file: 8)**
DIALOG(R)File 8:Ei Compendex(R)
(c) 2005 Elsevier Eng. Info. Inc. All rts. reserv.

05979288 E.I. No: EIP01556805223
**Title: Formation of tetrahedral islands in** epitaxial **NiO** layers **deposited on MgO(1 1 1)**
Author: Warot, B.; Snoeck, E.; Baules, P.; Ousset, J.C.; Casanove, M.J.; Dubourg, S.; Bobo, J.F.
Corporate Source: CEMES CNRS, F-31055 Toulouse Cedex, France
Source: Journal of Crystal Growth v 234 n 4 February 2002. p 704-710
Publication Year: 2002
CODEN: JCRGAE ISSN: 0022-0248
Language: English

**Title: Formation of tetrahedral islands in** epitaxial **NiO** layers **deposited on MgO(1 1 1)**
Abstract: We studied NiO **layers epitaxially** grown on a stabilized MgO(111) substrate at various temperatures between 700 degree C and...
Descriptors: *Epitaxial growth; Nickel compounds; Magnesia; **Crystal** structure; Surface structure; Sputtering; Interfacial energy; Deposition; Substrates; Transmission electron microscopy; Reflection high energy electron...
Identifiers: **Magnetoresistive** magnetic **heads**

**40/3,K/3 (Item 1 from file: 94)**
DIALOG(R)File 94:JICST-EPlus

(c)2005 Japan Science and Tech Corp(JST). All rts. reserv.

04783709 JICST ACCESSION NUMBER: 01A0197372 FILE SEGMENT: JICST-E
Magnetoresistance **of ferromagnetic tunnel junctions with Al2O3 formed by Plasma-Assisted Atomic Layer Controlled Deposition.**
JEONG C-W (1); JEONG W-C (1); JOO S-K (1)
(1) Seoul National Univ., Seoul, Kor
Denshi Joho Tsushin Gakkai Gijutsu Kenkyu Hokoku(IEIC Technical Report (Institute of Electronics, Information and Communication Enginners), 2000, VOL.100,NO.424(MR2000 77-81), PAGE.9-14, FIG.5, REF.6
JOURNAL NUMBER: S0532BBG
UNIVERSAL DECIMAL CLASSIFICATION: 621.382:537.633 621.382 MIM 537.311.1:669
LANGUAGE: English COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Original paper
MEDIA TYPE: Printed Publication

Magnetoresistance **of ferromagnetic tunnel junctions with Al2O3 formed by Plasma-Assisted Atomic Layer Controlled Deposition.**
...ABSTRACT: through oxidation of the Al films in a pure oxygen rf plasma. A maximum tunneling **MR** ratio of 25% was obtained in the junction of which insulating barrier thickness was 25...
...DESCRIPTORS: **magnetoresistance** effect...

... **magneto resistive** device...

...magnetic **head** ; ...

...atomic **layer epitaxy** ;
...BROADER DESCRIPTORS: recording **head** ; ...

... **crystal** growth

**40/3,K/4 (Item 2 from file: 94)**
DIALOG(R)File 94:JICST-EPlus
(c)2005 Japan Science and Tech Corp(JST). All rts. reserv.

04615667 JICST ACCESSION NUMBER: 00A0442298 FILE SEGMENT: JICST-E
**Angular Dependence of Spin-Valves Using Antiferromagnetic Epitaxial YFeO3.**
NAKAYAMA YUTAKA (1); OKAMURA SOICHIRO (1); SHIOSAKI TADASHI (1); SAKAKIMA HIROSHI (1); ADACHI HIDEAKI (2); SATOMI MITSUO (2); HIROTA EIICHI (2)
(1) Advanced Inst. Sci. and Technol., Nara; (2) Matsushita Electric Industrial Co., Ltd., JPN
Nippon Oyo Jiki Gakkaishi(Journal of the Magnetics Society of Japan), 2000 , VOL.24,NO.4-2, PAGE.559-562, FIG.11, REF.7
JOURNAL NUMBER: Z0944AAE ISSN NO: 0285-0192
UNIVERSAL DECIMAL CLASSIFICATION: 621.3:681.327.1
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Original paper
MEDIA TYPE: Printed Publication

ABSTRACT: Spin-valves using **epitaxial** orthoferrite(YFeO3) as an antiferromagnetic **layer** were prepared on SrTiO3(100),(110), and (111) substrates, and their properties were investigated. Each spin-valve showed a markedly different **MR** property according to the plane of the SrTiO3 substrate. The highest **MR** ratio was observed in a spin-valve with a-axis-oriented epitaxial YFeO3 on the SrTiO3 substrate with a

(110) plane, while a trace amount of **MR** was visible in a spin-valve with c-axis-oriented YFeO3 on (100) SrTiO3. The **MR** properties of the spin-valve on (110) SrTiO3 exhibited strong angular dependence under an in...

...valves seems to have some relation with the direction of parasitic ferromagnetism in the antiferromagnetic **epitaxial** YFeO3 **layer** . (author abst.)
...DESCRIPTORS: magnetic **head** ; ...

... **magnetoresistance** effect
BROADER DESCRIPTORS: **crystal** growth...

...recording **head** ; ...

... **crystal** structure

**40/3,K/5 (Item 1 from file: 95)**
DIALOG(R)File 95:TEME-Technology & Management
(c) 2005 FIZ TECHNIK. All rts. reserv.

00867880 E95030685243
**Reducing of saturation magnetic field in superlattices by addition of subsidiary ferromagnetic layers**
(Reduktion der magnetischen Saettigung in Uebergittern durch Einfuegen zusaetzlicher ferromagnetischer Schichten)
Takahashi, Y; Inomata, K
Toshiba Kawasaki, J
Journal of Applied Physics, v77, n4, pp1662-1666, 1995
Document type: journal article Language: English
Record type: Abstract
ISSN: 0021-8979

ABSTRACT:
The saturation magnetic field along the hard axis for the giant **magnetoresistance** is studied theoretically within the continuum approximation in a composite magnetic film consisting of a conventional magnetic sandwich film and subsidiary soft ferromagnetic **layers** **epitaxially** grown on both sides of it. The hard axis is given as a solution of...
DESCRIPTORS: SUPERLATTICE; MAGNETIC SATURATION; FERROMAGNETIC MATERIALS; FERROMAGNETIC PROPERTIES; MAGNETIC PROPERTIES; MAGNETIC STRUCTURE; APPROXIMATION METHOD; **LAYER** STRUCTURE; LAMINATES; FILM THICKNESS; EPILAYERS; **EPITAXIAL** GROWTH; FUNCTIONAL EQUATIONS; THEORETICAL MODELS; MAGNETISATION; **MAGNETORESISTORS** ; MAGNETIC FIELD MEASUREMENT; MAGNETIC RECORDING; MAGNETIC **HEADS** ; MAGNETIC VARIABLES MEASUREMENT; **CRYSTAL** LATTICE; SOLID STATE PHYSICS; EPITAXIAL TECHNIQUE; **CRYSTAL** GROWTH; LARGE SCALE MODEL; MAGNETIC FIELD; MAGNETIC MEASURING METHOD
IDENTIFIERS: **MAGNETORESISTIVER** EFFEKT; **magnetoresistiver** Effekt; Uebergitter; Ferroelektrikum

**40/3,K/6 (Item 1 from file: 144)**
DIALOG(R)File 144:Pascal
(c) 2005 INIST/CNRS. All rts. reserv.

16487869 PASCAL No.: 04-0132082
**Pt/C intermediate layer for Co-Cr perpendicular magnetic recording media with extremely high resolution**

**Selected Papers from the 2003 International Magnetics Conference (INTERMAG 2003), Boston Marriott Copley Place, Boston, MA, March 30-April 3, 2003**

ARIAKE J; HONDA N; OUCHI K
Akita Research Institute of Advanced Technology, Akita 010-1623, Japan

INTERMAG 2003 International Magnetics Conference (Boston, MA USA) 2003-03-30
Journal: IEEE transactions on magnetics, 2003, 39 (5 PART2) 2294-2296
Language: English

Copyright (c) 2004 INIST-CNRS. All rights reserved.

... storage layer. The intermediate layer can reduce the initial growing layer thickness of the storage **layer** by hetero- **epitaxial** growth. A reproduced signal at an extremely high linear density of 1235 kFRPI has been confirmed by a giant **magnetoresistive head** with track width of 250 nm and shield gap length of 92 nm. A very...

...English Descriptors: Transmission electron microscopy; Recording density ; High density; Magnetic thin films; Ferromagnetic materials; Heteroepitaxy; Experimental study; **Crystal** structure
?

**43/3,K/1 (Item 1 from file: 2)**
DIALOG(R)File 2:INSPEC
(c) 2005 Institution of Electrical Engineers. All rts. reserv.

7740403 INSPEC Abstract Number: A2003-21-7127-003
**Title: Transport properties in La/sub 0.7/(Ba/sub 1-x/Pb/sub x/)/sub 0.3/MnO/sub 3+ delta / system**
Author(s): Gong, S.Z.; Tai, M.F.
Author Affiliation: Dept. of Phys., Nat. Chung-Cheng Univ., Chia-Yi, Taiwan
Journal: Physica B Conference Title: Physica B (Netherlands) vol.329-333, pt.2 p.831-2
Publisher: Elsevier,
Publication Date: 11 May 2003 Country of Publication: Netherlands
CODEN: PHYBE3 ISSN: 0921-4526
SICI: 0921-4526(20030511)329/333:2L.831:TPX3;1-C
Material Identity Number: M742-2003-009
U.S. Copyright Clearance Center Code: 0921-4526/2003/$30.00
Conference Title: 23rd International Conference on Low Temperature Physics (LT23)
Conference Date: 20-27 Aug. 2002 Conference Location: Hiroshima, Japan
Language: English
Subfile: A
Copyright 2003, IEE
...Abstract: apparently affect on the metal-insulating and magnetic ordering temperatures as well as the magnetoresistance ( **MR** ) ratio. However, it reduces the sintered temperature and improves the electric conductivity. The **MR** ratios are monotonically linear decreasing with temperature from ~25% at 5 K down to ~6...
...Descriptors: **lattice constants** ; ...

... **lead** compounds

**43/3,K/2 (Item 2 from file: 2)**
DIALOG(R)File 2:INSPEC
(c) 2005 Institution of Electrical Engineers. All rts. reserv.

7641989 INSPEC Abstract Number: A2003-13-7560E-207
**Title: Influence of Cu substitution for Mn on the structure, magnetic, magnetocaloric and magnetoresistance properties of La/sub 0.7/Sr/sub 0.3/MnO/sub 3/ perovskites**
Author(s): Nguyen Chau; Pham Quang Niem; Hoang Nam Nhat; Nguyen Hoang Luong; Nguyen Duc Tho
Author Affiliation: Center for Mater. Sci., Nat. Univ. of Hanoi, Vietnam
Journal: Physica B Conference Title: Physica B (Netherlands) vol.327, no.2-4 p.214-17
Publisher: Elsevier,
Publication Date: April 2003 Country of Publication: Netherlands
CODEN: PHYBE3 ISSN: 0921-4526
SICI: 0921-4526(200304)327:2/4L.214:ISSM;1-U
Material Identity Number: M742-2003-004
U.S. Copyright Clearance Center Code: 0921-4526/03/$30.00
Conference Title: International Symposium on Advanced Magnetic Materials. ISAMM 2002
Conference Date: 2-4 Oct. 2002 Conference Location: Ha Long Bay, Vietnam
Language: English
Subfile: A
Copyright 2003, IEE

Abstract: Structural, magnetic, magnetocaloric and magnetoresistance ( **MR** ) studies on La/sub 0.7/Sr/sub 0.3/Mn/sub 0.95/Cu...

... are reported. The crystal structure of the samples is rhombohedral with a change of the **lattice constants** depending on the Cu content. FC and ZFC thermomagnetic measurements for both compositions at low...

... refrigerant materials for room-temperature applications. Electrical-resistance measurements show that both samples are metallic **conductor** for T<T/sub C/ and semiconductor for T>T/sub C/; moreover, the **MR** is maximal around T/sub C/.
...Descriptors: **lattice constants** ;
...Identifiers: **lattice constants** ; ...

...metallic **conductor** ;

**43/3,K/3 (Item 3 from file: 2)**
DIALOG(R)File 2:INSPEC
(c) 2005 Institution of Electrical Engineers. All rts. reserv.

5555003 INSPEC Abstract Number: A9710-6180E-002
**Title: Effect of gamma irradiation on structure and electrical properties of (Bi,Pb)/sub 2/Sr/sub 2/Ca/sub 2/Cu/sub 3/O/sub 10/ superconductor**
Author(s): Albiss, B.A.; Ozkan, H.; Bocuk, H.; Gasanly, N.M.; Ercan, I.
Author Affiliation: Dept. of Phys., Middle East Tech. Univ., Ankara, Turkey
Journal: Superlattices and Microstructures vol.21, suppl.A p.23-6
Publisher: Academic Press,
Publication Date: 1997 Country of Publication: UK
CODEN: SUMIEK ISSN: 0749-6036
SICI: 0749-6036(1997)21+AL.23:EGIS;1-5
Material Identity Number: H855-97004
U.S. Copyright Clearance Center Code: 0749-6036/97/0A0023+04$25.00/0
Language: English
Subfile: A
Copyright 1997, IEE

...Abstract: 10/ (BSCCO) were irradiated with gamma -rays up to an integrated dose of about 225 **MR** . The variations of normal state resistance, transition temperature, critical current and lattice parameters with gamma...
... quite sensitive to gamma irradiation but drastic lattice expansion does not occur up to 225 **MR** .
...Descriptors: **lattice constants** ; ...

... **lead** compounds

**43/3,K/4 (Item 4 from file: 2)**
DIALOG(R)File 2:INSPEC
(c) 2005 Institution of Electrical Engineers. All rts. reserv.

5148840 INSPEC Abstract Number: A9603-7360-002
**Title: Enhanced magnetoresistance in as-deposited oxygen-deficient La/sub 0.6/Pb/sub 0.4/MnO/sub 3-y/ thin films**
Author(s): Satyalakshmi, K.M.; Manoharan, S.S.; Hegde, M.S.; Prasad, V.; Subramanyan, S.V.
Author Affiliation: Dept. of Metall., Indian Inst. of Sci., Bangalore,

India
Journal: Journal of Applied Physics vol.78, no.11 p.6861-3
Publisher: AIP,
Publication Date: 1 Dec. 1995 Country of Publication: USA
CODEN: JAPIAU ISSN: 0021-8979
SICI: 0021-8979(19951201)78:11L.6861:EMDO;1-0
Material Identity Number: J004-95024
U.S. Copyright Clearance Center Code: 0021-8979/95/78(11)/6861/3/$6.00
Language: English
Subfile: A
Copyright 1996, IEE

...Abstract: grown at 400 mTorr. Further, these oxygen-deficient thin films showed over 70% giant magnetoresistance ( **GMR** ) near the insulator-metal transition temperature against the 40% **GMR** in the case of stoichiometric thin films.
...Descriptors: **lattice constants** ; ...

... **lead** compounds

**43/3,K/5 (Item 1 from file: 8)**
DIALOG(R)File 8:Ei Compendex(R)
(c) 2005 Elsevier Eng. Info. Inc. All rts. reserv.

06325209 E.I. No: EIP03127399540
**Title: Influence of Cu substitution for Mn on the structure, magnetic, magnetocaloric and magnetoresistance properties of La//0//.//7Sr//0//.//3Mn O//3 perovskites**
Author: Chau, Nguyen; Niem, Pham Quang; Nhat, Hoang Nam; Luong, Nguyen Hoang; Tho, Nguyen Duc
Corporate Source: Center for Materials Science National University of Hanoi, Hanoi, Viet Nam
Conference Title: ISAMM 2002
Conference Location: Ha Long Bay, Viet Nam Conference Date: 20021002-20021004
E.I. Conference No.: 60799
Source: Physica B: Condensed Matter v 327 n 2-4 April 2003. p 214-217
Publication Year: 2003
CODEN: PHYBE3 ISSN: 0921-4526
Language: English

Abstract: Structural, magnetic, magnetocaloric and magnetoresistance ( **MR** ) studies on La//0//.//7Sr//0//.//3Mn//0//.//9//5Cu//0//.//0//5O//3 (No ...
...are reported. The crystal structure of the samples is rhombohedral with a change of the **lattice constants** depending on the Cu content. FC and ZFC thermomagnetic measurements for both compositions at low...

...refrigerant materials for room-temperature applications. Electrical-resistance measurements show that both samples are metallic **conductor** for T less than T//C and semiconductor for T greater than T//C; moreover, the **MR** is maximal around T//C. copy 2002 Elsevier Science B.V. All rights reserved. 7...
Descriptors: *Lanthanum compounds; Substitution reactions; Manganese; Copper; Molecular structure; Magnetoresistance; Spin glass; Perovskite; Composition; **Lattice constants** ; Magnetization; Phase transitions; Entropy

**43/3,K/6 (Item 2 from file: 8)**
DIALOG(R)File 8:Ei Compendex(R)
(c) 2005 Elsevier Eng. Info. Inc. All rts. reserv.

04599880 E.I. No: EIP97013497794
**Title: Third angular effect of magnetoresistance in quasi-one-dimensional** conductors
Author: Osada, T.; Kagoshima, S.; Miura, N.
Corporate Source: Univ of Tokyo, Tokyo, Jpn
Source: Physical Review Letters v 77 n 26 Dec 23 1996. p 5261-5264
Publication Year: 1996
CODEN: PRLTAO ISSN: 0031-9007
Language: English

**Title: Third angular effect of magnetoresistance in quasi-one-dimensional** conductors
Abstract: The third angular effect of magnetoresistance ( **MR** ) as a novel Fermi surface (FS) topological effect in the quasi-one-dimensional (Q1D) is ...

...Lebed resonance, the Danner-Chikin oscillation, and the third angular effect, appear on the interlayer **MR** in the anisotropic Q1D **conductor** . This was experimentally proved using organic Q1D **conductor** (TMTSF)//2ClO//4. The third angular effect originates from the appearance or vanishing of the closed cyclotron orbits on the sheetlike FS of the Q1D **conductors** . 10 Refs.
Descriptors: *Magnetoresistance; Organic **conductors** ; Electronic structure; Magnetic fields; Fermi surface; Fermi level; Electric conductivity; **Lattice constants** ; Equations of motion; Relaxation processes
Identifiers: Angular effect; Quasi one dimensional **conductors** ; Lebed resonance; Danner-Chaikin oscillation; Tetramethyltetraselenafulvalene; Semiclassical magnetotransport theory; Tight binding band model; Electron orbital...

**43/3,K/7 (Item 1 from file: 34)**
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci
(c) 2005 Inst for Sci Info. All rts. reserv.

11477984 Genuine Article#: 657CY No. References: 7
**Title: Influence of Cu substitution for Mn on the structure, magnetic, magnetocaloric and magnetoresistance properties of La(0.7)Sr(0.3)NnO(3) perovskites**
Author(s): Chau NY (REPRINT) ; Niem PQ; Nhat HN; Luong NH; Tho ND
Corporate Source: Natl Univ Hanoi,Ctr Mat Sci,334 Nguyen Trai/Hanoi//Vietnam/ (REPRINT); Natl Univ Hanoi,Ctr Mat Sci,Hanoi//Vietnam/
Journal: PHYSICA B-CONDENSED MATTER, 2003, V327, N2-4 (APR), P214-217
ISSN: 0921-4526 Publication date: 20030400
Publisher: ELSEVIER SCIENCE BV, PO BOX 211, 1000 AE AMSTERDAM, NETHERLANDS
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)

Abstract: Structural, magnetic, magnetocaloric and **magneto resistance** ( **MR** ) studies on La0.7Sr0.3Mn0.95Cu0.05O3 (No. 1) and La0.7Sr0.3Mn0.9Cu0.1O3...

...are reported. The crystal structure of the samples is rhombohedral with a change of the **lattice constants** depending on the Cu content. FC and ZFC thermornagnetic measurements for both compositions at low...

...refrigerant materials for room-temperature applications.
Electrical-resistance measurements show that both samples are metallic **conductor** for T < T-C and semiconductor for T > T-C; moreover, the **MR** is maximal around Tc. (C) 2002 Elsevier Science B.V. All rights reserved.

**43/3,K/8 (Item 2 from file: 34)**
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci
(c) 2005 Inst for Sci Info. All rts. reserv.

05165141 Genuine Article#: VE488 No. References: 23
**Title: OBSERVABILITY OF THE MAGNETIC BAND-STRUCTURE OF LATERAL SUPERLATTICES**
Author(s): ROTTER P; SUHRKE M; ROSSLER U
Corporate Source: UNIV REGENSBURG,INST THEORET PHYS/D-93040 REGENSBURG//GERMANY/
Journal: PHYSICAL REVIEW B-CONDENSED MATTER, 1996, V54, N7 (AUG 15), P 4452-4455
ISSN: 0163-1829
Language: ENGLISH Document Type: ARTICLE (Abstract Available)

...Abstract: resistivity of a strongly modulated two-dimensional electron gas in a perpendicular magnetic field. For **lattice constants** of the order of the Fermi wavelength the classical picture of commensurate orbits breaks down and the magnetic band structure gains considerable influence. As a characteristic feature the longitudinal **magneto - resistivity** shows oscillations with a leading period of one flux quantum per unit cell which have...
...Research Fronts: ARRAY)
94-0925 001 (CONDUCTANCE FLUCTUATIONS OF NARROW DISORDERED QUANTUM WIRES; ELECTRON WAVE-GUIDE; MESOSCOPIC **CONDUCTORS** ; ONE-DIMENSIONAL BALLISTIC CHANNEL; POINT CONTACTS)

**43/3,K/9 (Item 1 from file: 94)**
DIALOG(R)File 94:JICST-EPlus
(c)2005 Japan Science and Tech Corp(JST). All rts. reserv.

06104254 JICST ACCESSION NUMBER: 05A0538214 FILE SEGMENT: JICST-E
**Crystallization Behavior of Co32Fe48B20** Electrode **Layers in Annealed Magnetic Tunnel Junctions**
BAE JI YOUNG (1); LIM WOO CHANG (1); KIM HYUN JEONG (1); LEE TAEK DONG (1) ; KIM TAE WAN (2)
(1) Kaist, Daejeon, Kor; (2) Samsung Advanced Inst. Of Technol., Yongin-si, Kor
Jpn J Appl Phys Part 1, 2005, VOL.44,NO.5A, PAGE.3002-3004, FIG.4, REF.7
JOURNAL NUMBER: G0520BAE ISSN NO: 0021-4922
UNIVERSAL DECIMAL CLASSIFICATION: 621.382 MIM 537.311.1:669-154
LANGUAGE: English COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Original paper
MEDIA TYPE: Printed Publication

**Crystallization Behavior of Co32Fe48B20** Electrode **Layers in Annealed Magnetic Tunnel Junctions**
ABSTRACT: The magnetoresistance ( **MR** ) ratio of magnetic tunnel junctions (MTJs) depends on the structure and characteristics of the interface between the ferromagnetic **electrode** and insulating layer. In order to understand the role of the amorphous CoFeB layer, the...

...PL2) and CoFe (PL3). The MTJs with PL1 and PL2 showed almost the same maximum **MR** ratio after annealing. This indicates that a smooth or sharp interface has an increased **MR** ratio. The crystallization temperature of the CoFeB layer showed different dependence on the structure and...
...DESCRIPTORS: **lattice constant** ;

**43/3,K/10 (Item 2 from file: 94)**
DIALOG(R)File 94:JICST-EPlus
(c)2005 Japan Science and Tech Corp(JST). All rts. reserv.

01167174 JICST ACCESSION NUMBER: 90A0880265 FILE SEGMENT: JICST-E
**Domain reorientation caused by abrasion in $PbTiO_3$ ceramics.**
GODA KOJI (1); EGUCHI TADATAKA (1); KUWABARA MAKOTO (2)
(1) Kurosaki Refractories Co., Ltd.; (2) Kyushu Inst. of Technology, Faculty of Engineering
Nippon Seramikkusu Kyokai Nenkai Koen Yokoshu, 1990, VOL.1990, PAGE.131, FIG.1, TBL.1
JOURNAL NUMBER: X0505ABG
UNIVERSAL DECIMAL CLASSIFICATION: 666.5/.6
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Conference Proceeding
ARTICLE TYPE: Short Communication
MEDIA TYPE: Printed Publication

DESCRIPTORS: **lead** titanate...

... **CIP** (pressing...

... **lead** compound...

... **lattice constant** ;

**43/3,K/11 (Item 1 from file: 95)**
DIALOG(R)File 95:TEME-Technology & Management
(c) 2005 FIZ TECHNIK. All rts. reserv.

01522050 20010607194
**Large magnetoresistance in double perovskite Sr(ind 2)Cr(ind 1.2)Mo(ind 0.8)O(ind 6- delta )**
Zeng, L; Fawcett, ID; Greenblatt, M; Croft, M
Dept. of Chem., Rutgers State Univ. of New Jersey, Piscataway, NJ, USA
Materials Research Bulletin, v36, n3-4, pp705-715, 2001
Document type: journal article Language: English
Record type: Abstract
ISSN: 0025-5408

ABSTRACT:
...exp 5+) (d(exp 1)) order in an anti-parallel arrangement by superexchange interaction, and **lead** to ferrimagnetic ordering below 465 K. Both compounds are n-type narrow gap semiconductors. Large...

...Sr(ind 2)Cr(ind 1.2)Mo(ind 0.8)O(ind 6). The **MR** behavior is attributed to an intra-grain tunneling mechanism.
DESCRIPTORS: CHROMIUM COMPOUNDS; MAGNETIC SEMICONDUCTORS; MAGNETIC STRUCTURE; STRONTIUM COMPOUNDS; LATTICE VACANCY; MOLYBDATE; SOLID STATE REACTION; **LATTICE CONSTANT** ; ELECTRON CONDUCTION; CMR...
?

**46/3,K/1 (Item 1 from file: 2)**
DIALOG(R)File 2:INSPEC
(c) 2005 Institution of Electrical Engineers. All rts. reserv.

5671567 INSPEC Abstract Number: A9719-7360D-003
**Title: Giant magnetoresistivity in electrochemically produced cobalt-copper multilayers**
Author(s): Lashmore, D.S.; Hua, S.Z.
Author Affiliation: Mater. Innovation, West Lebanon, NH, USA
Conference Title: Polycrystalline Thin Films: Structure, Texture, Properties, and Applications II. Symposium p.161-70
Editor(s): Frost, H.J.; Parker, M.A.; Ross, C.A.; Holm, E.A.
Publisher: Mater. Res. Soc, Pittsburgh, PA, USA
Publication Date: 1996 Country of Publication: USA xvi+753 pp.
Material Identity Number: XX96-03491
Conference Title: Polycrystalline Thin Films: Structure, Texture, Properties, and Applications II. Symposium
Conference Date: 27 Nov.-1 Dec. 1995 Conference Location: Boston, MA, USA
Language: English
Subfile: A
Copyright 1997, IEE

...Abstract: layer thicknesses electrochemically produced Co(Cu)-Cu thin polycrystalline layered alloys exhibit a giant magnetoresistivity ( **GMR** ). Further, upon annealing, the materials undergo a combination of grain growth and grain boundary diffusion. At certain conditions, this phenomena is believed to **lead** to a break up of the layered structure so that a magnetostatic coupling occurs and contributes to the **GMR** behaviour. It is further shown that, by careful control of the deposition parameters, a quasilinear **GMR** response (low sensitivity) can be created over a large magnetic field or, conversely, a high...
Frost, H.J. (editor); **Parker, M.A. (editor)** ; Ross, C.A. (editor); Holm, E.A. (editor)

**46/3,K/2 (Item 1 from file: 34)**
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci
(c) 2005 Inst for Sci Info. All rts. reserv.

11383322 Genuine Article#: 645RX No. References: 18
**Title: Prevalence and severity of mitral regurgitation in chronic systolic heart failure**
Author(s): Robbins JD; Maniar PB; Cotts W; **Parker MA** ; Bonow RO; Gheorghiade M (REPRINT)
Corporate Source: Northwestern Univ,Feinberg Sch Med, Div Cardiol, Dept Med,201 E Huron St,Galter 10-240/Chicago//IL/60611 (REPRINT); Northwestern Univ,Feinberg Sch Med, Div Cardiol, Dept Med,Chicago//IL/60611
Journal: AMERICAN JOURNAL OF CARDIOLOGY, 2003, V91, N3 (FEB 1), P360-+
ISSN: 0002-9149 Publication date: 20030201
Publisher: EXCERPTA MEDICA INC, 650 AVENUE OF THE AMERICAS, NEW YORK, NY 10011 USA
Language: English Document Type: ARTICLE (ABSTRACT AVAILABLE)

Author(s): Robbins JD; Maniar PB; Cotts W; **Parker MA** ; Bonow RO; Gheorghiade M (REPRINT)
Abstract: Left ventricular (LV) systolic dysfunction may **lead** to mitral regurgitation ( **MR** ) in the absence of structural mitral valve abnormalities and may be related to LV dilatation...

...annulus, sphericity, and regional wall motion abnormalities.(1-6) Although the presence and degree of **MR** in patients With LV dysfunction may have important prognostic and therapeutic implications, the available data...

?

```
File   9:Business & Industry(R) Jul/1994-2005/Jul 28
         (c) 2005  The Gale Group
File  15:ABI/Inform(R) 1971-2005/Jul 29
         (c) 2005 ProQuest Info&Learning
File  16:Gale Group PROMT(R) 1990-2005/Jul 28
         (c) 2005 The Gale Group
File  20:Dialog Global Reporter 1997-2005/Jul 29
         (c) 2005 The Dialog Corp.
File  47:Gale Group Magazine DB(TM) 1959-2005/Jul 29
         (c) 2005 The Gale group
File  75:TGG Management Contents(R) 86-2005/Jul W3
         (c) 2005 The Gale Group
File  80:TGG Aerospace/Def.Mkts(R) 1982-2005/Jul 28
         (c) 2005 The Gale Group
File  88:Gale Group Business A.R.T.S. 1976-2005/Jul 28
         (c) 2005 The Gale Group
File  98:General Sci Abs/Full-Text 1984-2004/Dec
         (c) 2005 The HW Wilson Co.
File 112:UBM Industry News 1998-2004/Jan 27
         (c) 2004 United Business Media
File 141:Readers Guide 1983-2004/Dec
         (c) 2005 The HW Wilson Co
File 148:Gale Group Trade & Industry DB 1976-2005/Jul 29
         (c)2005 The Gale Group
File 160:Gale Group PROMT(R) 1972-1989
         (c) 1999 The Gale Group
File 275:Gale Group Computer DB(TM) 1983-2005/Jul 29
         (c) 2005 The Gale Group
File 264:DIALOG Defense Newsletters 1989-2005/Jul 29
         (c) 2005 The Dialog Corp.
File 484:Periodical Abs Plustext 1986-2005/Jul W4
         (c) 2005 ProQuest
File 553:Wilson Bus. Abs. FullText 1982-2004/Dec
         (c) 2005 The HW Wilson Co
File 570:Gale Group MARS(R) 1984-2005/Jul 28
         (c) 2005 The Gale Group
File 608:KR/T Bus.News. 1992-2005/Jul 29
         (c)2005 Knight Ridder/Tribune Bus News
File 620:EIU:Viewswire 2005/Jul 28
         (c) 2005 Economist Intelligence Unit
File 613:PR Newswire 1999-2005/Jul 29
         (c) 2005 PR Newswire Association Inc
File 621:Gale Group New Prod.Annou.(R) 1985-2005/Jul 29
         (c) 2005 The Gale Group
File 623:Business Week 1985-2005/Jul 28
         (c) 2005 The McGraw-Hill Companies Inc
File 624:McGraw-Hill Publications 1985-2005/Jul 29
         (c) 2005 McGraw-Hill Co. Inc
File 634:San Jose Mercury  Jun 1985-2005/Jul 27
         (c) 2005 San Jose Mercury News
File 635:Business Dateline(R) 1985-2005/Jul 29
         (c) 2005 ProQuest Info&Learning
File 636:Gale Group Newsletter DB(TM) 1987-2005/Jul 28
         (c) 2005 The Gale Group
File 647:CMP  Computer Fulltext 1988-2005/Jul W2
         (c) 2005 CMP Media, LLC
File 696:DIALOG Telecom. Newsletters 1995-2005/Jul 28
         (c) 2005 The Dialog Corp.
File 674:Computer News Fulltext 1989-2005/Jul W4
         (c) 2005 IDG Communications
File 810:Business Wire 1986-1999/Feb 28
```

```
        (c) 1999 Business Wire
File 813:PR Newswire 1987-1999/Apr 30
        (c) 1999 PR Newswire Association Inc
File 587:Jane`s Defense&Aerospace 2005/Jul W3
        (c) 2005 Jane`s Information Group

Set     Items   Description
S1    5924450   LEAD OR ELECTRODE?? OR CONDUCTOR?? OR ELECTRICAL(2N)CONTAC-
             T??
S2    7231068   MR OR MAGNETO(2N)RESIST????? OR GMR OR CIP
S3      77325   READ???(2N)HEAD?? OR TRANSDUCER??
S4      27362   CUAU OR COPPER()GOLD?? OR COPPERGOLD?? OR CU()AU
S5       2670   NI()AL OR NICKELALUMINIUM OR NICKELALUMINUM OR NICKEL(N)(A-
             LUMINIUM?? OR ALUMINUM??)
S6       4253   FE()AL OR FEAL OR (IRON?? OR FERROUS??)()(ALUMINIUM?? OR A-
             LUMINUM) OR NIAL OR ALNI
S7       3757   B2(2N)STRUCTUR?? OR INTERMETALLIC?? OR INTER()METALLIC??
S8       1312   ORDER???(2N)(CRYSTALLIN?? OR CRYSTALIN?? OR LATTIC?? OR EP-
             ITAX?????)
S9        135   (HARD(3N)BIAS?? OR PERMANENT??(2N)MAGNET?? OR PM)(3N)LAYER-
             ??
S10       666   EPITAX?????(7N)(MATCH??? OR SEED??? OR SELECT????)
S11       143   S10(10N)LAYER??
S12      1266   LATTIC??(2N)CONSTANT??
S13      2389   AU=(PARKER, M? OR PARKER M? OR PINARBASI M? OR PINARBASI, -
             M?)
S14         0   S1(S)S2(S)S3(S)S4(S)S5(S)S6(S)S7(S)S8(S)S9
S15         0   S1(S)S2(S)S3(S)(S4 OR S5 OR S6 OR S7 OR S8)(S)S9
S16         0   S1(S)S2(S)S3(S)(S4 OR S5 OR S6 OR S7 OR S8)
S17      2419   S1(S)(S4 OR S5 OR S6 OR S7 OR S8)
S18       100   S17(S)(S2 OR MAGNETORESIST?????)
S19        14   S18(S)HEAD??
S20        14   RD (unique items)
S21    193841   S1(S)(S2 OR MAGNETORESIST?????)
S22      9683   S21(S)(S3 OR HEAD??)
S23        97   S22(S)LAYER??
S24         0   S23(S)(S10 OR S11 OR S12)
S25         0   S22(S)S9
S26         0   S23(S)S8
S27        11   S13 AND S1 AND (S2 OR MAGNETORESIST?????) AND (S3 OR HEAD?-
             ?)
S28        11   RD (unique items)
S29         2   S28 AND LAYER??
```

**20/3,K/1 (Item 1 from file: 20)**
DIALOG(R)File 20:Dialog Global Reporter
(c) 2005 The Dialog Corp. All rts. reserv.

39715462 (USE FORMAT 7 OR 9 FOR FULLTEXT)
**WRAP - Xstrata's WMC bid holds no competition issues, ACCC**
Jane Williams
AAP NEWS
December 21, 2004
JOURNAL CODE: WAAP LANGUAGE: English RECORD TYPE: FULLTEXT
WORD COUNT: 453

... copper, gold and silver markets on a worldwide basis," ACCC chairman Graeme Samuel said. Likewise, **Mr** Samuel said the acquisition would **lead** to only a small increase in market share in respect of gold and silver in...

... unsurprising, however, he said Xstrata was still some way for clearing all hurdles in the **lead** up to the purchase. "It is the Foreign Investment Review Board (FIRB) they are going to have problems with on the national interest issue, not the competition issue," **Mr** Padley said. Xstrata has yet to seek FIRB approval for the takeover. Once the application...

...a spokeswoman for former Liberal Party director Lynton Crosby today said that contrary to reports, **Mr** Crosby was not among them. "( **Mr** Crosby) hasn't said anything, he's not involved in this," the **head** of Crosby Textor's Canberra Office, Jannette Cotterell, said.

**20/3,K/2 (Item 2 from file: 20)**
DIALOG(R)File 20:Dialog Global Reporter
(c) 2005 The Dialog Corp. All rts. reserv.

39715460 (USE FORMAT 7 OR 9 FOR FULLTEXT)
**Xstrata's WMC takeover bid holds no competition issues, ACCC**
Jane Williams
AAP NEWS
December 21, 2004
JOURNAL CODE: WAAP LANGUAGE: English RECORD TYPE: FULLTEXT
WORD COUNT: 453

... copper, gold and silver markets on a worldwide basis," ACCC chairman Graeme Samuel said. Likewise, **Mr** Samuel said the acquisition would **lead** to only a small increase in market share in respect of gold and silver in...

... unsurprising, however, he said Xstrata was still some way for clearing all hurdles in the **lead** up to the purchase. "It is the Foreign Investment Review Board (FIRB) they are going to have problems with on the national interest issue, not the competition issue," **Mr** Padley said. Xstrata has yet to seek FIRB approval for the takeover. Once the application...

...a spokeswoman for former Liberal Party director Lynton Crosby today said that contrary to reports, **Mr** Crosby was not among them. "( **Mr** Crosby) hasn't said anything, he's not involved in this," the **head** of Crosby Textor's Canberra Office, Jannette Cotterell, said.

**20/3,K/3 (Item 3 from file: 20)**
DIALOG(R)File 20:Dialog Global Reporter
(c) 2005 The Dialog Corp. All rts. reserv.

36885543
**Zambezi Resources - First Day of Dealings on AIM**
CNF
July 26, 2004
JOURNAL CODE: WRNS LANGUAGE: English RECORD TYPE: FULLTEXT
WORD COUNT: 1895

... a position for progression to production in the medium term." The board of Zambezi is **headed** by Julian Ford, Managing Director, who has worked for a number of major resources companies...

... including Alcoa Australia Limited, British Gas plc, Western Metals Limited and Rustenburg Platinum Mines Limited. **Mr** Brian Rear, Non Executive Chairman has worked for companies including Straits Resources Limited, Conzinc Rio...

... year break, and a better understanding of iron oxide copper gold models is expected to **lead** to an efficient evaluation and resource deliniation process. A geological reinterpretation has already been completed... kilometres east of Lusaka, covering an area of 3,854 square kilometres and containing numerous **copper** , **gold** and nickel prospects and abandoned mines, Chakwenga and Chumbwe, and the Cheowa Neningombwe **Copper / Gold** prospect. Chakwenga Gold Mine The Chakwenga Gold Mine was discovered in 1934 and mined from...

... programme is planned to test for high tonnage, low grade open-pittable mineralisation. Cheowa-Neningombwe **copper** - **gold** prospect The Cheowa-Neningombwe shear zone extends over 22 kilometres and has been worked for...

...a priority project by Zambezi as it is easily accessible and outcrops at surface. DIRECTORS **Mr** Brian Rear, Non Executive Chairman: **Mr** Rear has a distinguished career in the mining industry over 32 years of technical and managerial experience in Australia, New Guinea, United Kingdom, Europe, South Africa and Indonesia. **Mr** Rear has worked for companies including Conzinc Rio Tinto Australia Limited, Rio Tinto Limited and Anglovaal Limited in gold, base metals, uranium, thermal coal and industrial minerals. **Mr** Rear was a founding director of Straits Resources Limited where he held the position of Chief Executive Officer from its inception in 1991 to 2002. **Mr** Julian Ford, Managing Director: **Mr** Ford has worked for a number of major resources companies including Alcoa Australia Limited, British Gas plc, Western Metals Limited and Rustenburg Platinum Mines Limited. During this period, **Mr** Ford has held a number of senior management positions including General Manager of NiWest Limited (an exploration company). He has also held senior marketing; project management and commercial management positions. **Mr** Jon Alexander Crowe,Executive Director: **Mr** Crowe has in excess of 30 years prospecting and mineral industry contracting experience in Australia...

... is currently General Manager Exploration of Bullion Minerals Ltd and a Director of Oilex NL. **Mr** Jeremy Wrathall, Non Executive Director: **Mr** Wrathall has extensive experience of both the practical and financial aspects of mining. He worked...

... investment analyst and equity salesman in the City of London. He spent two years as **Head** of Mining Equity Sales for Warburg Dillon Read and two

years as Global **Head** of Mining Equities for Deutsche Bank This information is provided by RNS The company news...

**20/3,K/4 (Item 4 from file: 20)**
DIALOG(R)File 20:Dialog Global Reporter
(c) 2005 The Dialog Corp. All rts. reserv.

33510188
**Canada NewsWire summary of releases for Evening, Wednesday January 21, 2004**

CANADA NEWSWIRE
January 21, 2004
JOURNAL CODE: WCNW LANGUAGE: English RECORD TYPE: FULLTEXT
WORD COUNT: 3236

... Sophos-Anti-virus) C1813 - TORONTO : Aktelux signs contract with Raytheon to supply Remote Control Display **Heads** (Aktelux-Raytheon-deal) C1814 - OTTAWA, ON : N-able and Hartco Offer Leading Network Management Solutions... unit (APF-Feb-distribution) C1944 - BURNABY, BC : Canada Payphone Corporation signs five-year agreement with **Mr** . Gas (Cda-Payphone- **Mr** .-Gas) C1950 - TORONTO : High Income Principal and Yield Securities Corporation Announces Officer Changes - Correction (HI...

... Restaurants Royalty Income Fund Announces January Cash Distribution (PrimeRestaurants-dist) C2011 - BURLINGTON, ON : AIC and **Mr** . Yetming Resolve the Matters Between Them (AIC-matter-resolved) C2012 - OTTAWA, CANADA : Zarlink Semiconductor Releases...

**20/3,K/5 (Item 5 from file: 20)**
DIALOG(R)File 20:Dialog Global Reporter
(c) 2005 The Dialog Corp. All rts. reserv.

33510102
**Canada NewsWire summary of releases for Afternoon, Wednesday January 21st 2004**
CANADA NEWSWIRE
January 21, 2004
JOURNAL CODE: WCNW LANGUAGE: English RECORD TYPE: FULLTEXT
WORD COUNT: 2556

... Sophos-Anti-virus) C1813 - TORONTO : Aktelux signs contract with Raytheon to supply Remote Control Display **Heads** (Aktelux-Raytheon-deal) C1814 - OTTAWA, ON : N-able and Hartco Offer Leading Network Management Solutions... unit (APF-Feb-distribution) C1944 - BURNABY, BC : Canada Payphone Corporation signs five-year agreement with **Mr** . Gas (Cda-Payphone- **Mr** .-Gas) C1950 - TORONTO : High Income Principal and Yield Securities Corporation Announces Officer Changes - Correction (HI...

... Paradis, to Engage in Pre-Budget Consultations (Pre-Budget-Consultati) C2011 - BURLINGTON, ON : AIC and **Mr** . Yetming Resolve the Matters Between Them (AIC-matter-resolved) C2014 - TORONTO : Algonquin Power Income Fund ...

**20/3,K/6 (Item 6 from file: 20)**
DIALOG(R)File 20:Dialog Global Reporter
(c) 2005 The Dialog Corp. All rts. reserv.

28486216 (USE FORMAT 7 OR 9 FOR FULLTEXT)
**AAP Finance news in brief, Monday, April 7, 2003**
AAP NEWS
April 07, 2003
JOURNAL CODE: WAAP LANGUAGE: English RECORD TYPE: FULLTEXT
WORD COUNT: 1344

... This transaction enhances Constellation's growth profile and product breadth, and expands our geographic reach," **Mr** Sands said. Constellation CDIs commenced trading today on a deferred settlement basis under the code...

... to a 5.6km toll road in Korea's fifth largest city Kwangju. Macquarie Bank **head** of infrastructure and specialised funds Anthony Kahn said KRIF provided an attractive investment in infrastructure...

...The drop was not across the board with 11 industry sectors rising and 10 dropping. **Mr** Olivier said when the war started people were distracted from looking for new jobs. "The...

...travel took the greatest knock with a 4.9 per cent fall in the month. **Mr** Olivier said confidence in the airline industry was not high to start with and there...outcome was expected. It was anticipated the sale program would be completed by August 2003. **Mr** Trevor and **Mr** Geroff were appointed as receivers and managers on December 30. Since then, the mine has...

... We have now finalised all senior management appointments and have the team in place to **lead** the business in its next phase," said **Mr** Pearce. "The fact that we have been able to assemble such a quality team in...

**20/3,K/7 (Item 7 from file: 20)**
DIALOG(R)File 20:Dialog Global Reporter
(c) 2005 The Dialog Corp. All rts. reserv.

28293406
**WRAP - MIM shares rise as speculation about Xstrata returns**
Alex Tilbury
AAP NEWS
March 26, 2003
JOURNAL CODE: WAAP LANGUAGE: English RECORD TYPE: FULLTEXT
WORD COUNT: 504

... cent holding overnight. After four months, MIM and Xstrata remain locked in talks which may **lead** to the London and Zurich-listed miner making a bid for its Queensland-based rival...

... house, Xstrata. "MIM and Xstrata are in discussions in relation to a transaction which could **lead** to a change of control of MIM," MIM said in a statement in response to...

... that MIM was about to recommend its shareholders accept the unconditional cash offer. Grange Securities **head** of retail equities Tony Gordon said the offer speculation was gaining ground around the market...

... is still hanging around has prompted today's move ... it is quite a big move," **Mr** Gordon said. Depending on how high the market values MIM's assets and future projects...

... must also diversify out of South Africa, where the majority of its operations are based. **Mr** Myers also said that MIM had no plans to sell its 50 per cent interest...

**20/3,K/8 (Item 8 from file: 20)**
DIALOG(R)File 20:Dialog Global Reporter
(c) 2005 The Dialog Corp. All rts. reserv.

28293396
**MIM has no plans to sell Alumbrera; Xstrata talks ongoing**
Alex Tilbury
AAP NEWS
March 26, 2003
JOURNAL CODE: WAAP LANGUAGE: English RECORD TYPE: FULLTEXT
WORD COUNT: 504

... cent holding overnight. After four months, MIM and Xstrata remain locked in talks which may **lead** to the London and Zurich-listed miner making a bid for its Queensland-based rival...

... house, Xstrata. "MIM and Xstrata are in discussions in relation to a transaction which could **lead** to a change of control of MIM," MIM said in a statement in response to...

... that MIM was about to recommend its shareholders accept the unconditional cash offer. Grange Securities **head** of retail equities Tony Gordon said the offer speculation was gaining ground around the market...

... is still hanging around has prompted today's move ... it is quite a big move," **Mr** Gordon said. Depending on how high the market values MIM's assets and future projects...

... must also diversify out of South Africa, where the majority of its operations are based. **Mr** Myers also said that MIM had no plans to sell its 50 per cent interest...

**20/3,K/9 (Item 9 from file: 20)**
DIALOG(R)File 20:Dialog Global Reporter
(c) 2005 The Dialog Corp. All rts. reserv.

27178755 (USE FORMAT 7 OR 9 FOR FULLTEXT)
**AAP Finance News in Brief for Thurs, January 23, 2003**
AAP NEWS
January 23, 2003
JOURNAL CODE: WAAP LANGUAGE: English RECORD TYPE: FULLTEXT
WORD COUNT: 831

LAFAYETTE MINING MELBOURNE, Jan 23 AAP - Minerals explorer Lafayette Mining Ltd has signed a **heads** of agreement with Korean firm LG International Corp and the Korean government resources investment arm...

... died yesterday, the companies said today. Jubilee said during his six years with the company **Mr** Mairs had played a major part in its successful development. Jubilee managing director Kerry Harmanis will act as chairman of the company until a new appointment is made. **Mr** Mairs had been chairman of Kresta since 1999 and had overseen a major turnaround of the group, the company said. Neil Fearis, a director of Kresta since 1997, will assume **Mr** Mairs's role as non-executive chairman. AAP RAMELIUS SYDNEY,

Jan 23 AAP - New Australian...

...of three years, a fixed coupon of 4.35 per cent, and was issued via **lead** manager Nomura International plc. "This deal represents our 18th in uridashi format," Westpac acting group...

... the final number of Japanese retail investors participating in the deal to exceed 50,000," **Mr** Zuber said. "The current favourable interest rate differential and stability of the Australian dollar against...

... overly aggressive diversification, faulty strategies, and other acts of a risk-prone or incompetent management," **Mr** Theodore said. "If regulatory capital were the only issue, our ratings would have undoubtedly captured...

**20/3,K/10 (Item 10 from file: 20)**
DIALOG(R)File 20:Dialog Global Reporter
(c) 2005 The Dialog Corp. All rts. reserv.

27053313
**MIM shares jump as Xstrata boss does the rounds of Sydney instos**
Alex Tilbury
AAP NEWS
January 16, 2003
JOURNAL CODE: WAAP LANGUAGE: English RECORD TYPE: FULLTEXT
WORD COUNT: 367

...million) for its Peak Gold Mine and its 25 per cent interest in the Alumbrera **copper / gold** mine. AAP

**20/3,K/11 (Item 11 from file: 20)**
DIALOG(R)File 20:Dialog Global Reporter
(c) 2005 The Dialog Corp. All rts. reserv.

25155296
**Canada NewsWire summary of releases for Wednesday, September 25, 2002**
CANADA NEWSWIRE
September 25, 2002
JOURNAL CODE: WCNW LANGUAGE: English RECORD TYPE: FULLTEXT
WORD COUNT: 4265

... using Iris Recognition technology makes clearing Customs simpler and quicker (New-Customs-program) C4688 - TORONTO : **Heads** Up Parents: Protect your Favourite Hockey Star with a CSA-Certified Helmet (CSA-certified-helmets...

... of The Movie Network and Super Ecran (Astral-Rogers-agreemt) C4746 - TORONTO : FBI intelligence specialist **heads** list of speakers at Canadian Health Care Anti-Fraud Association conference (anti-health-fraud-con... C4586 - PLANO, Texas : EDS Signs $100 Million in Government Health Care Business; EDS Continues to **Lead** Market By Providing Health Care IT Services to 19 States (TX-EDS-health-care) C4591... to present at conference (BNS- conf-presentation) C4614 - PLANO, Texas : EDS Appoints Jeff Gilliam to **Lead** Global Strategic Alliances (TX-EDS-appoints-pres) C4617 - TORONTO : OSC re: Excam Developments Inc. (OSC...
... Supply Chain Management wins customers and mind share in Canada (JD-Edwards-solutions) C4656 - TORONTO : **Mr** . John McNamara elected to Toxin Alert Inc.'s board of directors (Toxin-Alert-director) C4669...

... airborne gravity anomalies have been identified in a survey carried out to locate Iron Oxide **Copper** - **Gold** (IOCG) deposits in the Candelaria Belt, northern Chile (Far-West-Mining) C4826 - TORONTO : AGF Management... its Businesses (AT&T- progresses) C4885 - TORONTO : Atlas Cold Storage Income Trust announces promotion of **Mr** . Andrew W. Peters (Atlas-promotion) C4893 - CHELMSFORD, Mass. : Brooks-PRI Receives Order from Leading European...

**20/3,K/12 (Item 12 from file: 20)**
DIALOG(R)File 20:Dialog Global Reporter
(c) 2005 The Dialog Corp. All rts. reserv.

25147813
**Canada NewsWire summary of releases for Midday, Wednesday, September 25, 2002**
CANADA NEWSWIRE
September 25, 2002
JOURNAL CODE: WCNW LANGUAGE: English RECORD TYPE: FULLTEXT
WORD COUNT: 2186

... using Iris Recognition technology makes clearing Customs simpler and quicker (New-Customs-program) C4688 - TORONTO : **Heads** Up Parents: Protect your Favourite Hockey Star with a CSA-Certified Helmet (CSA-certified-helmets...

... C4586 - PLANO, Texas : EDS Signs $100 Million in Government Health Care Business; EDS Continues to **Lead** Market By Providing Health Care IT Services to 19 States (TX-EDS-health-care) C4591...

...to present at conference (BNS- conf-presentation) C4614 - PLANO, Texas : EDS Appoints Jeff Gilliam to **Lead** Global Strategic Alliances (TX-EDS-appoints-pres) C4617 - TORONTO : OSC re: Excam Developments Inc. (OSC... researchers developing new ways of preventing body from rejecting donated organs (Diabetes/hepatitis) C4656 - TORONTO : **Mr** . John McNamara elected to Toxin Alert Inc.'s board of directors (Toxin-Alert-director) C4669...

**20/3,K/13 (Item 13 from file: 20)**
DIALOG(R)File 20:Dialog Global Reporter
(c) 2005 The Dialog Corp. All rts. reserv.

03052542
**Anatolia Minerals Development Limited Corporate Review And Update**
CANADA NEWSWIRE
October 08, 1998
JOURNAL CODE: WCNW LANGUAGE: English RECORD TYPE: FULLTEXT
WORD COUNT: 1012

... have shown interest in joint-venturing this property. 2. AMDL's strong management team is **headed** by Dick Moores who, prior to forming AMDL, brought two major copper projects into and... AMDL's Board has recently been strengthened by the recent addition of Timothy J. Haddon. **Mr** . Haddon, President and CEO of Archangel Diamond Corp., is also the former president of AMAX...

**20/3,K/14 (Item 1 from file: 613)**

DIALOG(R)File 613:PR Newswire
(c) 2005 PR Newswire Association Inc. All rts. reserv.

01071912 20031117TO082 (USE FORMAT 7 FOR FULLTEXT)
**Ivanhoe Mines Shares to Begin Trading on U.S. NASDAQ Stock Market**
PR Newswire
Monday, November 17, 2003 08:32 EST
JOURNAL CODE: PR LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT
DOCUMENT TYPE: NEWSWIRE
WORD COUNT: 862

TEXT:
...the work and life of Hugo Dummett, Ivanhoe's former Executive
Vice-President,
Project Development. **Mr** . Dummett, who died in an accident in South Africa
a
year ago, was one of...

...in the international mining
community and a leading authority on large-scale porphyry copper deposits.
**Mr** . Dummett also was Deputy Chairman and Executive Vice-President,
Exploration, of African Minerals, an Ivanhoe...

...investors because of widespread interest in our Turquoise Hill copper
and
gold discovery in Mongolia," **Mr** . Friedland said. "The NASDAQ listing is
expected to increase the visibility and analytical coverage of...

...veteran John Macken was appointed President
of Ivanhoe Mines with a mandate to assemble and **lead** the management team
charged with bringing into production the company's copper and gold
discoveries in Mongolia's South Gobi region.
**Mr** . Macken, 52, joins Ivanhoe after a 19-year career with mining
giant
Freeport McMoran Copper...

...in Papua, the world's
largest single copper and gold mine. Between 1996 and 1998, **Mr** . Macken
**headed**
an expansion valued at almost $1 billion at the Grasberg open pit and
underground mining...

...shareholder.
Ivanhoe Mines, with operations concentrated in the Asia Pacific region,
is a producer of **copper** , **gold** and iron ore products. Ivanhoe Mines'
core
assets are its 100%-owned Turquoise Hill Project...

**29/3,K/1 (Item 1 from file: 484)**
DIALOG(R)File 484:Periodical Abs Plustext
(c) 2005 ProQuest. All rts. reserv.

01659583 (USE FORMAT 7 OR 9 FOR FULLTEXT)
**Giant** magnetoresistance **at low fields in discontinuous NiFe-Ag multilayer thin films**
Hylton, T L; Coffey, K R; **Parker, M A** ; Howard, J K
Science (GSCI), v261 n5124, p1021-1024, p.4
Aug 20, 1993
ISSN: 0036-8075 JOURNAL CODE: GSCI
DOCUMENT TYPE: Feature
LANGUAGE: English RECORD TYPE: Fulltext; Abstract
WORD COUNT: 2959 LENGTH: Long (31+ col inches)

**Giant** magnetoresistance **at low fields in discontinuous NiFe-Ag multilayer thin films**
... **Parker, M A**

...ABSTRACT: study prepared a series of sputtered multilayers of nickel-iron-silver to examine the giant **magnetoresistance** effect before and after annealing. The appearance of giant **magnetoresistance** is concurrent with the breakup of the nickel-iron **layers** , which is attributable to a magnetostatic interaction favoring local antiparallel alignment of the moments in adjacent **layers** .
TEXT:
Since the discovery of giant **magnetoresistance** ( **GMR** ) in Fe-Cr sandwiches (1, 2), **GMR** has been observed in a variety of magnetic-nonmagnetic multilayer (3, 4) and granular alloy...

...The smallest values of resistance are observed in these systems when the magnetization of neighboring **layers** or clusters is aligned by an applied field, and larger values of resistance are observed when neighboring **layers** are antialigned or neighboring clusters are "randomly" aligned. With the exception of the spin-valve...

...and related devices (8, 9), the fields necessary to achieve magnetic saturation and a significant **magnetoresistive** effect are generally too large to make these devices promising in low-field sensor applications...

...magnitude and sign of the interlayer exchange coupling is a strong function of the nonmagnetic **layer** thickness (10), which can **lead** to difficulties in the preparation of the weakly antiferromagnetically coupled structures necessary for low-field...

...For alloy systems, the particle size, shape, and temperature dominate the field dependence of the **GMR** with the result that low-field sensitivity is not possible in realistic alloy systems (11...

...minimizes the effects of crystal and shape anisotropy, providing a magnetostatically induced, antiparallel coupling between **layers** . As these samples exhibit 4 to 6% **GMR** at room temperature in fields of 5 to 10 Oe, they satisfy two important criteria in the design of **magnetoresistive** sensors for magnetic recording **heads** : a **magnetoresistance** greater than 2% and a sensitivity greater than 0.5% per oersted. Other equally important ...

...The original motivation for this work is our own theoretical (11) and experimental work on **GMR** in granular alloys of Co-Cu and NiFe-Ag (12) and granular, evaporated bilayers of...

...fields (typically 10 kOe in alloys and 1 kOe in bilayers) necessary to achieve significant **GMR** in these granular alloys can be attributed to three effects: (i) The typical particle sizes...

...conditions, we expect penetration of the nonmagnetic material at the grain boundaries of the magnetic **layer** . Although this may or may not result in a collection of flat, island-like magnetic particles, it will certainly promote a multidomain state within the magnetic **layers** . These discontinuous multilayers should show properties similar to both continuous multilayers and granular alloys. We...

...with a thermally grown oxide surface 700 (Character omitted) thick. A typical sample with n **layers** of NiFe of thickness x and Ag of thickness y is given by Ta(100...

...Ar in a rapid thermal processing oven at a variety of temperatures for 10 min. **Magnetoresistance** measurements were performed with a four-point, in-line geometry of the contacts with the...

...significant uniaxial anisotropy deposited in the absence of an applied field.

In the range of **layer** thicknesses examined, 15 to 25 (Character omitted) for NiFe and 10 to 40 (Character omitted) for Ag, no significant **GMR** was observed before the annealing. After annealing, samples achieve **GMR** magnitudes of typically DeltaR/R sub s = 4 to 6% for a sample with five NiFe **layers** (Fig. 1), where DeltaR = R - R sub s and R sub s is the resistance...

...in DeltaR/R sub s with annealing temperature. A difference in the magnitudes of the **GMR** for fields applied parallel and perpendicular to the current direction indicates a persistent anisotropic **magnetoresistance** (AMR) effect of magnitude 0.3 to 0.5% in both the unannealed and annealed...

...oersted. To our knowledge this is the largest sensitivity reported in any multilayer or alloy **GMR** structure.

All samples shown in Fig. 1 show hysteresis in the magnetization with coercivities increasing...

...temperature and nearly vanishes at annealing temperatures above 325degC. As annealing temperature is varied, the **magnetoresistance** becomes larger as the remanence magnetization M sub r /M sub s becomes smaller (Fig...

...throughout the annealing sequence. Also, samples with 10 (Character omitted) Ag spacers show no significant **GMR** before or after annealing.

Unlike the results reported so far in continuous multilayer systems, **GMR** is evident in the one- **layer** sample (Fig. 3), although only of magnitude 0.3%, and is clearly distinguishable from the AMR effect because the **magnetoresistance** is negative for the field both parallel and perpendicular to the current. (Figure 3 omitted...

...dependence DeltaR/R sub s == (n - 1)/n, where n is the number of magnetic **layers** , implying that the dominant contribution to the **GMR** comes from the number of NiFe-Ag-NiFe sandwiches.

Cross-sectional transmission electron microscopy (TEM...

...microstructure with == 200 (Character omitted) grain size and epitaxy between the NiFe and Ag from **layer** to **layer** within a single column. The as-deposited sample has the complex XRD peak pattern expected of a

...multilayer, we also expect significant local variations in the relative orientations of moments in adjacent **layers** , ranging continuously from completely antiparallel to completely parallel, depending on the local interlayer and intralayer...

...spacer (Fig. 2) might be the result of a greater ferromagnetic exchange coupling between magnetic **layers** in the sample with the thinner spacer.

Other observations also support the idea of a multidomain or multiparticle, discontinuous multilayer structure. The origin of the **GMR** in the annealed single **layer** film is similar to that of the granular alloys: spin-dependent scattering from domain to domain (or particle to particle) within the **layer** . Larger **GMR** is observed in multilayered samples for two possible reasons: (i) The active surface area for scattering between adjacent **layers** is much larger than that for scattering between adjacent particles within a **layer** , and (ii) magnetostatic interactions between discontinuous **layers** foster a greater degree of antiparallel alignment of the magnetic moments. The increases in the...

...induced uniaxial anisotropy with annealing temperature are also consistent with a breakup of the magnetic **layers** . As the magnetic **layers** become more discontinuous, increased magnetostatic interactions or, alternatively, increased domain wall pinning will increase hysteresis...

...the alloy may also occur).

As in our work, Rodmacq et al. (16) report no **GMR** in Ni-Ag samples with 10 (Character omitted) spacers deposited at room temperature because of...

...attribute to structural changes that modify the interlayer exchange interaction. Annealing above 300degC "destratifies" the **layers** and degrades the **magnetoresistance** , presumably because of bridging through the Ag spacer. Interestingly, at nearly the same temperature, we see the onset of **GMR** in our samples with thick spacers, which we also attribute to a breakup of the **layers** . Also, although we see similar trends in the **GMR** with annealing temperature for spacer thicknesses of 20 to 40 (Character omitted), these authors report that **GMR** is strongly peaked at a spacer **layer** thickness of 11 (Character omitted) with FWHM = 3.5 (Character omitted). These observations suggest a...

...with ours and the saturation fields are relatively high.

Two other recent reports also discuss **GMR** in annealed NiFe-Ag structures. Bian et al. (17) report large increases in the **magnetoresistance** at 4.2 K of NiFe(4 (Character omitted))-Ag(20 (Character omitted)) multilayers after...

...with small particle sizes (11). Kitada (18) has recently reported a large increase in the **magnetoresistance** of NiFe-Ag bilayer thin films after successively annealing the films in oxygen and then...

...and speculates that the thermal processing promotes first a mixing of the NiFe and Ag **layers** followed by precipitation of Ag within the NiFe.

REFERENCES

1. M. N. Baibich, J. M...

**29/3,K/2 (Item 1 from file: 635)**

DIALOG(R)File 635:Business Dateline(R)

(c) 2005 ProQuest Info&Learning. All rts. reserv.

0247118 91-71071
**Few** Heads **Are Rolling at the New Chemical**
McNatt, Robert; **Parker, Marcia**
Crains New York Business (New York, NY, US), V7 N42 s1 p1
PUBL DATE: 911021
WORD COUNT: 1,034
DATELINE: New York, NY, US

**Few** Heads **Are Rolling at the New Chemical**
... **Parker, Marcia**

TEXT:

...money from the merger as predicted. Some expect the lack of cuts so far will **lead** to a severe pruning of middle management ranks in the coming months.

"They are not...

...could prove a management nightmare once the merger is completed. In several cases, former division **heads** at Manny Hanny and Chemical will be sharing power and thus forced to manage by...

...t last long. In trying to stave off departures of talented people by creating more **layers** of management, the banks are creating a performance contest. After the new chiefs are evaluated...

...about the pace at which they will achieve the projected cost savings," says Kidder's **Mr** . Peabody.

An anemic stock price could make it difficult to raise the $1.25 billion...

...about 14% of the combined work force of 44,000.

Planning how to save

Department **heads** are already planning how to slim down. They have been told to develop a strategic...

...the two institutions.

The structure, say observers, sets up a horse race between Chemical's **Mr** . Harrison, who will run the wholesale side, and Manny Hanny's **Mr** . Miller, who will oversee the retail operations. The long-term winner could ultimately be the...

...developing markets. All three were profitable businesses at Manny Hanny.

Yet they will report to **Mr** . Harrison, who came from Chemical, where some of those operations were smaller or less significant.

Both the excessive **layers** of management and the potential for tension are illustrated on the local banking front.

LocalVice Chairman Turner. Now Manny Hanny's group executive Michael Hegarty oversees retail, while **Mr** . Turner tackles middle market lending.

Alan M. Silberstein, the Chemical executive who had been in charge of

that bank's larger branch network, will work under **Mr** . Hegarty.

Middle market business, where Chemical has been the dominant force in New York, has...
?

```
File 348:EUROPEAN PATENTS 1978-2005/Jul W04
         (c) 2005 European Patent Office
File 349:PCT FULLTEXT 1979-2005/UB=20050728,UT=20050721
         (c) 2005 WIPO/Univentio

Set     Items   Description
S1     487103   LEAD OR ELECTRODE?? OR CONDUCTOR?? OR ELECTRICAL(2N)CONTAC-
             T??
S2      54068   MR OR MAGNETO(2N)RESIST????? OR GMR OR CIP
S3      74464   READ???(2N)HEAD?? OR TRANSDUCER??
S4       3423   CUAU OR COPPER()GOLD?? OR COPPERGOLD?? OR CU()AU
S5       7201   NI()AL OR NICKELALUMINIUM OR NICKELALUMINUM OR NICKEL(N)(A-
             LUMINIUM?? OR ALUMINUM??)
S6       6645   FE()AL OR FEAL OR (IRON?? OR FERROUS??)()(ALUMINIUM?? OR A-
             LUMINUM) OR NIAL OR ALNI
S7       6206   B2(2N)STRUCTUR?? OR INTERMETALLIC?? OR INTER()METALLIC??
S8       2447   ORDER???(2N)(CRYSTALLIN?? OR CRYSTALIN?? OR LATTIC?? OR EP-
             ITAX?????)
S9       1867   (HARD(3N)BIAS?? OR PERMANENT??(2N)MAGNET?? OR PM)(3N)LAYER-
             ??
S10      2236   EPITAX?????(7N)(MATCH??? OR SEED??? OR SELECT????)
S11      1218   S10(10N)LAYER??
S12      3275   LATTIC??(2N)CONSTANT??
S13       218   AU=(PARKER, M? OR PARKER M? OR PINARBASI M? OR PINARBASI, -
             M?)
S14         0   S1(S)S2(S)S3(S)S4(S)S5(S)S6(S)S7(S)S8(S)S9
S15         0   S1(S)S2(S)S3(S)(S4 OR S5 OR S6 OR S7 OR S8)(S)S9
S16         0   S1(S)S2(S)S3(S)(S4 OR S5 OR S6 OR S7 OR S8)
S17      3870   S1(S)(S4 OR S5 OR S6 OR S7 OR S8)
S18     56144   S2 OR MAGNETORESIST??????
S19        34   S17(S)S18
S20         6   S19(S)HEAD??
S21         0   S19(S)S9
S22         0   S19(30N)S9
S23        20   S19(30N)LAYER??
S24        18   S23 NOT S20
S25         0   S19(S)(S10 OR S11 OR S12)
S26         1   S19(S)EPITAX??????
S27         1   S26 NOT (S20 OR S23)
S28         0   S27 NOT NUCLEIC(2N)ACID??
S29        10   S13 AND S1 AND S2
S30         7   S29 AND HEAD??
S31         0   S30 AND (S8 OR EPITAX?????)
```

**20/3,K/1 (Item 1 from file: 348)**
DIALOG(R)File 348:EUROPEAN PATENTS
(c) 2005 European Patent Office. All rts. reserv.

01637393
**Alpha-olefins and olefin polymers and processes for their preparation**
**Alpha-Olefine und Polyolefine und Verfahren zu deren Herstellung**
**Polymeres d'olefines et d'alpha-olefines et procede de polymerisation**
PATENT ASSIGNEE:
E.I. DU PONT DE NEMOURS AND COMPANY, (200580), 1007 Market Street, Wilmington, Delaware 19898, (US), (Applicant designated States: all)
The University of North Carolina at Chapel Hill, (2378951), Office of Technology Development, Campus Box 4105, 308 Bynum Hall, Chapel Hill, NC 27599-4105, (US), (Applicant designated States: all)
INVENTOR:
Johnson, Lynda Kaye, No. 7 Burnley Road, Wilmington, DE 19803, (US)
Killian, Christopher Moore, 1201 Hillendale Road, Gray, TN 37615, (US)
Arthur, Samuel David, 3214 North Monroe Stret, Wilmington, DE 19802-2654, (US)
Feldman, Jerald, 16 Cinnamon Drive, Hockessin, DE 19707-1349, (US)
McCord, Elizabeth Forrester, 514 Helmock Drive, Hockessin, DE 19707-9361, (US)
McLain, Stephen James, 202 Old Mill Lane, Wilmington, DE 19803-4922, (US)
Kreutzer, Kristina Ann, Apartment 2C, 4 Doe Run Court, Wilmington, DE 19808-2059, (US)
Bennett, Margaret Anne, 1 Brandywine Falls, Wilmington, DE 19806, (US)
Coughlin, Edward Bryan, 74 Overlook Drive, Amherst, Massachusetts 01002, (US)
Ittel, Steven Dale, 2802 Landon Drive, Wilmington, DE 19810-2213, (US)
Parthasarathy, Anju, 1562 Pottstown Pike, Glenmoore, PA 19343-9614, (US)
Tempel, Daniel Joseph, 2241 Chardonnay Drive, Macungie, Pennsylvaniy 18062, (US)
Brookhart, Maurice S., 944 Old Orchard Road, Chapel Hill, NC 27514, (US)
LEGAL REPRESENTATIVE:
Towler, Philip Dean et al (75322), Frank B. Dehn & Co. 179 Queen Victoria Street, London EC4V 4EL, (GB)
PATENT (CC, No, Kind, Date): EP 1348723 A2 031001 (Basic)
EP 1348723 A3 040929
EP 1348723 A3 040929
APPLICATION (CC, No, Date): EP 2003075669 960124;
PRIORITY (CC, No, Date): US 378044 950124; US 415283 950403; US 473590 950607; US 7375 P 950808; US 2654 P 950822
DESIGNATED STATES: DE; FR; GB; IT
RELATED PARENT NUMBER(S) - PN (AN):
EP 805826 (EP 96907020)
INTERNATIONAL PATENT CLASS: C08F-210/02; C08F-004/70
ABSTRACT WORD COUNT: 136

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

| Available Text | Language | Update | Word Count |
|---|---|---|---|
| CLAIMS A | (English) | 200340 | 16110 |
| SPEC A | (English) | 200340 | 94385 |
| Total word count - document A | | | 110495 |
| Total word count - document B | | | 0 |
| Total word count - documents A + B | | | 110495 |

...SPECIFICATION was introduced into the autoclave via gas tight syringe through a port on the autoclave **head** . Then 0.6 mL of 3M poly(methylalumoxane) was added via syringe and stirring was...and 0.6 mL

of 3M poly(methylalumoxane) were injected into the autoclave through the **head** port, and mixture was stirred under nitrogen at 20(degree)C for 50 min. The...

...and 0.85 mL of 3M poly(methylalumoxane) were injected into the autoclave through the **head** port. The mixture was stirred under nitrogen at 23(degree)C for 30 min. The...toluene and 0.6 mL of 3M polymethylalumoxane were injected into the autoclave through the **head** port. The autoclave body was immersed in a flowing water bath and the mixture was...was introduced into the autoclave via gas tight syringe through a port on the autoclave **head** . The autoclave was purged with propylene gas to saturate the solvent with propylene. Then 45...

...up into the syringe and the contents were quickly injected into the autoclave through a **head** port. This method avoids having the catalyst in solution with no stabilizing ligands.
The autoclave...

...The autoclave was cooled in a running tap water bath at 22(degree)C. The **internal** temperature quickly rose to 30(degree)C upon initial propylene addition but soon dropped back...

...ethylene to 689 kPa and continuously fed ethylene with stirring for 4.5 hr; the **internal** temperature was very steady at 60(degree)C. The ethylene was vented and the product...

**20/3,K/2 (Item 2 from file: 348)**
DIALOG(R)File 348:EUROPEAN PATENTS
(c) 2005 European Patent Office. All rts. reserv.

01395011
**MAGNETORESISTANCE EFFECT DEVICE AND MAGNETORESISTANCE EFFECT HEAD COMPRISING THE SAME, AND MAGNETIC RECORDING/REPRODUCING APPARATUS**
**MAGNETWIDERSTANDSEFFEKTBAUELEMENT UND MAGNETWIDERSTANDSEFFEKTKOPF DAMIT UND MAGNETISCHE AUFZEICHNUNGS/WIEDERGABEVORRICHTUNG**
**DISPOSITIF A RESISTANCE MAGNETIQUE, TETE A RESISTANCE MAGNETIQUE COMPRENANT CE DISPOSITIF ET APPAREIL D'ENREGISTREMENT/REPRODUCTION MAGNETIQUE**
PATENT ASSIGNEE:
MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD., (216883), 1006, Oaza-Kadoma, Kadoma-shi, Osaka 571-8501, (JP), (Applicant designated States: all)
INVENTOR:
KAWAWAKE, Yasuhiro, Room 511, Rune-Uji 34-1, Nishihata, Ogura-cho, Uji-shi Kyoto 611-0042, (JP)
SUGITA, Yasunari, 19-2-203, Yasuda 3-chome, Tsurumi-ku, Osaka-shi, Osaka 538-0032, (JP)
SAKAKIMA, Hiroshi, 20-19, Kasumizaka, Kyotanabe-shi, Kyoto 610-0352, (JP)
LEGAL REPRESENTATIVE:
Tothill, John Paul (81551), Frank B. Dehn & Co. 179 Queen Victoria Street , London EC4V 4EL, (GB)
PATENT (CC, No, Kind, Date): EP 1311008 A1 030514 (Basic)
WO 2001099206 011227
APPLICATION (CC, No, Date): EP 2001941168 010621; WO 2001JP5334 010621
PRIORITY (CC, No, Date): JP 2000187973 000622
DESIGNATED STATES: DE; FR; GB; NL
EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI
INTERNATIONAL PATENT CLASS: H01L-043/08; G11B-005/39; G01R-033/09; H01F-010/30; H01F-010/32
ABSTRACT WORD COUNT: 70
NOTE:

Figure number on first page: 1

LANGUAGE (Publication,Procedural,Application): English; English; Japanese
FULLTEXT AVAILABILITY:

| Available Text | Language | Update | Word Count |
|---|---|---|---|
| CLAIMS A | (English) | 200320 | 464 |
| SPEC A | (English) | 200320 | 4720 |
| Total word count - document A | | | 5184 |
| Total word count - document B | | | 0 |
| Total word count - documents A + B | | | 5184 |

...SPECIFICATION an MR head using the above-described magnetoresistive element according to the present invention.
An **MR** element 100 is interposed between an upper magnetic shield (common shield) 13 and a lower...

...a material for the shields, a soft magnetic film of an alloy of Ni-Fe, **Fe** - **Al** -Si, Co-Nb-Zr or the like is used suitably. In this **head** , the magnetic shields 13 and 16 also function as **electrodes** for feeding current to the element. In a portion between both the **electrodes** other than an **MR** element portion, an insulation film 18 is provided. As shown in the figure, conductive spacers 20 may be interposed between the **MR** element and the shields. In this **head** , the **MR** element 100 and the conductive spacers 20 constitute a reproduction gap 17.
A nonmagnetic layer...

**20/3,K/3 (Item 3 from file: 348)**
DIALOG(R)File 348:EUROPEAN PATENTS
(c) 2005 European Patent Office. All rts. reserv.

01330769
**OLEFIN BLOCK COPOLYMERS, PRODUCTION PROCESSES OF THE SAME AND USE THEREOF**
**OLEFINBLOCKCOPOLYMERE, HERSTELLUNGSVERFAHREN DERSELBEN UND IHRE ANWENDUNG**
**COPOLYMERES BLOCS D'OLEFINE, PROCEDES DE FABRICATION ET UTILISATION**
PATENT ASSIGNEE:
Mitsui Chemicals, Inc., (213645), 2-5, Kasumigaseki 3-chome, Chiyoda-ku, Tokyo 100-6070, (JP), (Applicant designated States: all)
INVENTOR:
OTA, Seiji, c/o MITSUI CHEMICALS, INC., 6-1-2, Waki, Waki-cho, Kuga-gun, Yamaguchi 740-0061, (JP)
MORIYA, Satoru, c/o MITSUI CHEMICALS, INC. 3, Chigusa-Kaigan, Ichihara-shi, Chiba 299-0108, (JP)
MORI, Ryoji, c/o MITSUI CHEMICALS, INC. 6-1-2, Waki, Waki-cho, Kuga-gun, Yamaguchi 740-0061, (JP)
KODA, Taku, c/o MITSUI CHEMICALS, INC. 6-1-2, Waki, Waki-cho, Kuga-gun, Yamaguchi 740-0061, (JP)
TAN, Junji, c/o MITSUI CHEMICALS, INC. 6-1-2, Waki, Waki-cho, Kuga-gun, Yamaguchi 740-0061, (JP)
KOJOH, Shinichi, c/o MITSUI CHEMICALS, INC. 580-32, Nagaura, Sodegaura-shi, Chiba 299-0265, (JP)
KANEKO, Hideyuki, c/o MITSUI CHEMICALS, INC. 580-32, Nagaura, Sodegaura-shi, Chiba 299-0265, (JP)
HAMA, Shunichi, 3-8-1-106, Makuharihongo, Hanamigawa-ku, Chiba-shi, Chiba 262-0033, (JP)
NOBORI, Tadahito, c/o MITSUI CHEMICALS, INC. 580-32, Nagaura, Sodegaura-shi, Chiba 299-0265, (JP)
MATSUGI, Tomoaki, c/o MITSUI CHEMICALS, INC. 580-32, Nagaura, Sodegaura-shi, Chiba 299-0265, (JP)
KASHIWA, Norio, c/o MITSUI CHEMICALS, INC. 580-32, Nagaura,

```
    Sodegaura-shi, Chiba 299-0265, (JP)
LEGAL REPRESENTATIVE:
  HOFFMANN - EITLE (101511), Patent- und Rechtsanwalte Arabellastrasse 4,
    81925 Munchen, (DE)
PATENT (CC, No, Kind, Date):  EP 1275670  A1  030115 (Basic)
                              WO 2001053369  010726
APPLICATION (CC, No, Date):   EP 2001942647 010118;  WO 2001JP298  010118
PRIORITY (CC, No, Date): JP 200017848 000121; JP 200017849 000121; JP
    200017850 000121; JP 200018053 000125; JP 200018054 000125; JP
    200023333 000127; JP 200024736 000128; JP 200024737 000128; JP
    200028924 000201; JP 200028925 000201; JP 200028926 000201; JP
    200090716 000327; JP 2000111900 000407; JP 2000132859 000427; JP
    2000147500 000515; JP 2000166470 000531; JP 2000288181 000922
DESIGNATED STATES: DE; FR; GB
EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI
INTERNATIONAL PATENT CLASS: C08F-293/00; C08G-081/00; C08L-053/00;
  C08L-101/00
ABSTRACT WORD COUNT: 101
NOTE:
  Figure number on first page: NONE

LANGUAGE (Publication,Procedural,Application): English; English; Japanese
FULLTEXT AVAILABILITY:
Available Text  Language    Update     Word Count
      CLAIMS A  (English)  200303      2630
      SPEC A    (English)  200303    121060
Total word count - document A        123690
Total word count - document B             0
Total word count - documents A + B  123690
```

...SPECIFICATION various terminal blocks, transformers, plugs, printed wiring boards, tuners, loudspeakers, microphones, headphones, miniature motors, magnetic **head** bases, power modules, housings, semiconductors, liquid crystal display parts, FDD carriages, FDD chassises, HDD parts... extremely large value of the stereoregularity Index (M5))) has an extremely small proportion of the **structure** represented by r (racemo) contained in sequential propylene units. Therefore, polypropylene having the M3)) structure...

...in a concentrated condition, has longer meso chain than that of polypropylene having no M3)) **structure** , in which the r (racemo) structures are present in a dispersed condition.
The values of...

**20/3,K/4 (Item 4 from file: 348)**
DIALOG(R)File 348:EUROPEAN PATENTS
(c) 2005 European Patent Office. All rts. reserv.

00634614
**Thin film magnetic head and method of manufacturing the same**
**Dunnfilmmagnetkopf und dessen Herstellungsverfahren**
**Tete magnetique a film mince et sa methode de fabrication**
PATENT ASSIGNEE:
  SHARP KABUSHIKI KAISHA, (260710), 22-22 Nagaike-cho, Abeno-ku, Osaka-shi,
    Osaka-fu 545-0013, (JP), (Proprietor designated states: all)
INVENTOR:
  Nishino, Hiromi, Kongo-ryo, 192-1 Hashigami, Shinjo-cho,
    Kitakatsuragi-gun, Nara-ken, (JP)
  Fujii, Akiyoshi, 3-24-23-203 Tasuno Minami, Sango-cho, Ikoma-shi,
    Nara-ken, (JP)

LEGAL REPRESENTATIVE:
  Brown, Kenneth Richard et al (28831), R.G.C. Jenkins & Co. 26 Caxton
    Street, London SW1H 0RJ, (GB)
PATENT (CC, No, Kind, Date):  EP 616317  A2  940921 (Basic)
                              EP 616317  A3  950614
                              EP 616317  B1  990929
APPLICATION (CC, No, Date):   EP 94301858 940316;
PRIORITY (CC, No, Date): JP 9355970 930316; JP 93332864 931227
DESIGNATED STATES: DE; FR; GB; NL
INTERNATIONAL PATENT CLASS: G11B-005/31; G11B-005/39
ABSTRACT WORD COUNT: 102
NOTE:
  Figure number on first page: 1

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

| Available Text | Language | Update | Word Count |
|---|---|---|---|
| CLAIMS B | (English) | 9939 | 773 |
| CLAIMS B | (German) | 9939 | 683 |
| CLAIMS B | (French) | 9939 | 854 |
| SPEC B | (English) | 9939 | 3196 |
| Total word count - document A | | | 0 |
| Total word count - document B | | | 5506 |
| Total word count - documents A + B | | | 5506 |

...SPECIFICATION to 9F and Fig. 10.
In a conventional method of manufacturing a thin film magnetic **head** , as shown in Fig. 9A, a layer to be a lower magnetic core layer 22, which is made of a soft magnetic thin film of Ni-Fe, **Fe** - **Al** -Si, **Fe** - **Al** -N, Co-Zr or the like having high saturation magnetization characteristics, is formed with a...
...like is formed on lower magnetic core layer 22 with a sputter method. A bias **lead** 30 and a **magnetoresistive** element (hereinafter referred to as "an **MR** element") 31 are formed and subjected to insulating coating. An upper magnetic core layer 24...

**20/3,K/5 (Item 1 from file: 349)**
DIALOG(R)File 349:PCT FULLTEXT
(c) 2005 WIPO/Univentio. All rts. reserv.

01243613
**GENOME OF LEGIONELLA PNEUMOPHILA PARIS AND LENS STRAIN-DIAGNOSTIC AND EPIDEMIOLOGICAL APPLICATIONS**
**GENOME DES SOUCHES PARIS ET LENS DE <I>LEGIONELLA PNEUMOPHILA</I> APPLICATIONS DIAGNOSTIQUES ET EPIDEMIOLOGIQUES**
Patent Applicant/Assignee:
  INSTITUT PASTEUR, 25-28, rue du Docteur Roux, F-75015 Paris, FR, FR
    (Residence), FR (Nationality), (For all designated states except: US)
  INSTITUT NATIONAL DE LA SANTE ET DE LA RECHERCHE MEDICALE (INSERM), 101,
    rue de Tolbiac, F-75013 Paris, FR, FR (Residence), FR (Nationality),
    (For all designated states except: US)
  UNIVERSITE CLAUDE BERNARD LYON 1, 43, boulevard du 11 novembre 1918,
    F-69100 Villeurbanne, FR, FR (Residence), FR (Nationality), (For all
    designated states except: US)
  CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE (CNRS), 3, rue Michel-Ange,
    F-75016 Paris, FR, FR (Residence), FR (Nationality), (For all
    designated states except: US)
Patent Applicant/Inventor:
  BUCHRIESER Carmen, 11 rue de l'Amiral Mouchez, F-75013 Paris, FR, FR

(Residence), AT (Nationality), (Designated only for: US)
TICHIT Magalie, Hoff 1, 25 rue de Vouille, F-75015 Paris, FR, FR (Residence), FR (Nationality), (Designated only for: US)
ETIENNE Jerome, 2, rue Jamen-Grand, F69300 Calvire, FR, FR (Residence), FR (Nationality), (Designated only for: US)
MA Laurence, 29, rue Danton, F-92240 Malakoff, FR, FR (Residence), FR (Nationality), (Designated only for: US)
CAZALET Christel, 27, passage Barrault, F-75013 Paris, FR, FR (Residence), FR (Nationality), (Designated only for: US)
GLASER Philippe, 72 rue de la Glaciere, F-75013 Paris, FR, FR (Residence), FR (Nationality), (Designated only for: US)
RUSNIOK Christophe, 44 rue des Gallardons, Batiment A, F-92350 Le Plessis Robinson, FR, FR (Residence), FR (Nationality), (Designated only for: US)
BOUCHIER Christiane, 16, rue Voltaire, F-75011 Paris, FR, FR (Residence), FR (Nationality), (Designated only for: US)
ZIDANE Nora, 31 bis, rue de la Chapelle, F-91310 Montlhery, FR, FR (Residence), FR (Nationality), (Designated only for: US)
MAGNIER Arnaud, 47, avenue du President Wilson, F-93100 Montreuil, FR, FR (Residence), FR (Nationality), (Designated only for: US)
KUNST Frederik, 46, rue Barbes, Batiment 18, F-94200 Ivry sur Seine, FR, FR (Residence), FR (Nationality), (Designated only for: US)
VANDENESCH Francois, 10 rue Berrod, F-69004 Lyon, FR, FR (Residence), FR (Nationality), (Designated only for: US)
JARRAUD Sophie, C/O Universite de Lyon, Inserm E 0230, FR, FR (Residence), FR (Nationality), (Designated only for: US)

Legal Representative:
MARTIN Jean-Jacques (agent), Cabinet Regimbeau, 20, rue de Chazelles, F-75847 Paris Cedex 17, FR,

Patent and Priority Information (Country, Number, Date):
Patent: WO 200549642 A2 20050602 (WO 0549642)
Application: WO 2004IB3578 20040923 (PCT/WO IB04003578)
Priority Application: FR 200313687 20031121

Designated States:
(All protection types applied unless otherwise stated - for applications 2004+)
AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
(EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC NL PL PT RO SE SI SK TR
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
(AP) BW GH GM KE LS MW MZ NA SD SL SZ TZ UG ZM ZW
(EA) AM AZ BY KG KZ MD RU TJ TM

Publication Language: English
Filing Language: English
Fulltext Word Count: 624705

**20/3,K/6 (Item 2 from file: 349)**
DIALOG(R)File 349:PCT FULLTEXT
(c) 2005 WIPO/Univentio. All rts. reserv.

00930157
**PROTEINS AND NUCLEIC ACIDS ENCODING SAME**
**PROTEINES ET ACIDES NUCLEIQUES CODANT POUR CELLES-CI**
Patent Applicant/Assignee:
CURAGEN CORPORATION, 555 Long Wharf Drive, 11th floor, New Haven, CT 06511, US, US (Residence), US (Nationality), (For all designated states except: US)

Priority Application: US 2000258928 20001229; US 2001259415 20010102; US 2001259785 20010104; US 2001269814 20010220; US 2001279863 20010309; US 2001279832 20010329; US 2001279833 20010329; US 2001283889 20010413; US 2001284447 20010418; US 2001286683 20010425; US 2001294080 20010529; US 2001312915 20010816; US 2001313325 20010817; US 2001322699 20010917; US 2001333350 20011126

Parent Application/Grant:
Related by Continuation to: US 2000258928 20001229 (CIP); US 2001322699 20010917 (CIP); US 2001269814 20010220 (CIP); US 2001313325 20010817 (CIP); US 2001259415 20010102 (CIP); US 2001279863 20010309 (CIP); US 2001259785 20010104 (CIP); US 2001284447 20010418 (CIP); US 2001279833 20010329 (CIP); US 2001279832 20010329 (CIP); US 2001283889 20010413 (CIP); US 2001286683 20010425 (CIP); US 2001333350 20011126 (CIP); US 2001294080 20010529 (CIP); US 2001312915 20010816 (CIP)

Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)

AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR

(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG

(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Publication Language: English
Filing Language: English
Fulltext Word Count: 149894

Fulltext Availability:
Detailed Description

Detailed Description
... phospholipase C (PLC) subtypes comprise a related group of multidornain phosphodiesterases that cleave the polar **head** groups from inositol lipids.

Activated by all classes of cell surface receptors, these enz es... hyperlipoproteinernia in a manner comparable to the association of apoE2 with type III. Vogel et **al** . (Proc. Nat. Acad. Sci. 82: 8696-8700, 1985) showed that large amounts of apoE can...
?

**24/3,K/1 (Item 1 from file: 348)**
DIALOG(R)File 348:EUROPEAN PATENTS
(c) 2005 European Patent Office. All rts. reserv.

01644319
**MAGNETIC RELUCTANCE ELEMENT AND METHOD FOR PREPARATION THEREOF AND NONVOLATILE MEMORY COMPRISING THE ELEMENT**
**MAGNETRELUKTANZELEMENT UND VERFAHREN ZU SEINER HERSTELLUNG UND NICHTFLUCHTIGER SPEICHER MIT DIESEM ELEMENT**
**ELEMENT DE RELUCTANCE MAGNETIQUE, PROCEDE DE PREPARATION ET MEMOIRE NON VOLATILE COMPRENANT LEDIT ELEMENT**
PATENT ASSIGNEE:
Matsushita Electric Industrial Co., Ltd., (3141013), 1006-banchi, Oaza-Kadoma, Kadoma-shi, Osaka 571-8501, (JP), (Applicant designated States: all)
INVENTOR:
MATSUKAWA, Nozomu, 498-2-1-101, Gakuenasahimotomachi 1-chome, Nara-shi, Nara 631-0015, (JP)
HIRAMOTO, Masayoshi, 1863-2, Tawaraguchi-cho, Ikoma-shi, Nara 630-0243, (JP)
ODAGAWA, Akihiro, 3-1-30-702, Tanaka, Tsuchiura-shi, Ibaraki 300-0048, (JP)
SUGITA, Yasunari, 19-2-203, Yasuda 3-chome, Tsurumi-ku, Osaka-shi, Osaka 538-0032, (JP)
SATOMI, Mitsuo, 52-4, Kisabe 6-chome, Katano-shi, Osaka 576-0052, (JP)
KAWASHIMA, Yoshio, 3-14-517, Miyukihigashi-cho, Neyagawa-shi, Osaka 572-0055, (JP)
LEGAL REPRESENTATIVE:
Tothill, John Paul (81551), Frank B. Dehn & Co. 179 Queen Victoria Street , London EC4V 4EL, (GB)
PATENT (CC, No, Kind, Date): EP 1475847 A1 041110 (Basic)
WO 2003069691 030821
APPLICATION (CC, No, Date): EP 2003705193 030214; WO 2003JP1596 030214
PRIORITY (CC, No, Date): JP 200238125 020215
DESIGNATED STATES: AT; BE; BG; CH; CY; CZ; DE; DK; EE; ES; FI; FR; GB; GR; HU; IE; IT; LI; LU; MC; NL; PT; SE; SI; SK; TR
EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO
INTERNATIONAL PATENT CLASS: H01L-043/08; H01L-043/12; G11B-005/39; G01R-033/09; H01F-010/16
ABSTRACT WORD COUNT: 223
NOTE:
Figure number on first page: 1

LANGUAGE (Publication,Procedural,Application): English; English; Japanese
FULLTEXT AVAILABILITY:

| Available Text | Language | Update | Word Count |
|---|---|---|---|
| CLAIMS A | (English) | 200446 | 648 |
| SPEC A | (English) | 200446 | 4808 |
| Total word count - document A | | | 5456 |
| Total word count - document B | | | 0 |
| Total word count - documents A + B | | | 5456 |

...SPECIFICATION are provided in the necessary portions.
A multilayer film including at least a first ferromagnetic **layer** 11, a non-magnetic **layer** 12, and a second ferromagnetic **layer** 13 is formed on the substrate 20. It is preferable that the multilayer film further includes a pair of **electrodes** 21, 22 for sandwiching these **layers** 11, 12, 13 in the thickness direction. An interlayer insulating film 23 is arranged between the lower **electrode** 21 and the upper **electrode** 22. The composition of the entire ferromagnetic **layers** 11,

13 need not to be the same as the composition at the interface with the non-magnetic **layer** 12. A conductive or insulating material can be used for the non-magnetic **layer** 12 in accordance with the type of element. In a **GMR** element using the CPP- **GMR** effect, e.g., **Cu** , **Au** , Ag, Ru, Cr, and an alloy of these elements can be used for the material...

**24/3,K/2 (Item 2 from file: 348)**
DIALOG(R)File 348:EUROPEAN PATENTS
(c) 2005 European Patent Office. All rts. reserv.

01578119
**Giant magnetoresistive transducer**
**Riesenmagnetowiderstandswandler**
**Transducteur a effet magnetoresistif geant**
PATENT ASSIGNEE:
FUJITSU LIMITED, (211463), 1-1, Kamikodanaka 4-chome, Nakahara-ku, Kawasaki-shi, Kanagawa 211-8588, (JP), (Applicant designated States: all)
INVENTOR:
Shimizu, Yutaka, Fujitsu Limited, 4-1-1, Kamikodanaka, Nakahara-ku, Kawasaki-shi, Kanagawa 211-8588, (JP)
Oshima, Hirotaka, Fujitsu Limited, 4-1-1, Kamikodanaka, Nakahara-ku, Kawasaki-shi, Kanagawa 211-8588, (JP)
Nagasaka, Keiichi, Fujitsu Limited, 4-1-1, Kamikodanaka, Nakahara-ku, Kawasaki-shi, Kanagawa 211-8588, (JP)
Seyama, Yoshihiko, Fujitsu Limited, 4-1-1, Kamikodanaka, Nakahara-ku, Kawasaki-shi, Kanagawa 211-8588, (JP)
Tanaka, Atsushi, Fujitsu Limited, 4-1-1, Kamikodanaka, Nakahara-ku, Kawasaki-shi, Kanagawa 211-8588, (JP)
LEGAL REPRESENTATIVE:
Sunderland, James Harry et al (47951), Haseltine Lake & Co., Imperial House, 15-19 Kingsway, London WC2B 6UD, (GB)
PATENT (CC, No, Kind, Date): EP 1310944 A2 030514 (Basic)
APPLICATION (CC, No, Date): EP 2002012418 020607;
PRIORITY (CC, No, Date): JP 2001345651 011112
DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI; LU; MC; NL; PT; SE; TR
EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI
INTERNATIONAL PATENT CLASS: G11B-005/39
ABSTRACT WORD COUNT: 120
NOTE:
Figure number on first page: 5

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

| Available Text | Language | Update | Word Count |
|---|---|---|---|
| CLAIMS A | (English) | 200320 | 1352 |
| SPEC A | (English) | 200320 | 8387 |
| Total word count - document A | | | 9739 |
| Total word count - document B | | | 0 |
| Total word count - documents A + B | | | 9739 |

...SPECIFICATION conventional magnetic-domain control structure using a hard magnetic material formed adjacent to the free **layer** .
Next follows several examples of the spin-valve film 100.

EXAMPLES
The lower **electrode** **layer** made of **Cu** / **Au** with a **layer** thickness of 400 nm is formed by magnetron sputtering, and patterned by

usual photolithography. Then, an **MR** film having the following structure is formed using usual magnetron sputtering onto an altic substrate...

**24/3,K/3 (Item 3 from file: 348)**
DIALOG(R)File 348:EUROPEAN PATENTS
(c) 2005 European Patent Office. All rts. reserv.

01540954
**TUNNEL MAGNETORESISTANCE ELEMENT**
**TUNNEL-MAGNETWIDERSTANDSELEMENT**
**ELEMENT DE MAGNETORESISTANCE TUNNEL**
PATENT ASSIGNEE:
National Institute of Advanced Industrial Science and Technology, (3298252), 3-1, Kasumigaseki 1-chome, Chiyoda-ku, Tokyo 100-0013, (JP), (Applicant designated States: all)
Japan Science and Technology Agency, (3353873), 1-8, Hon-cho 4-chome, Kawaguchi-shi, Saitama 332-0012, (JP), (Applicant designated States: all)
INVENTOR:
NAGAHAMA, Taro, Nat. Inst. Adv. Ind.Sci.&Tech., 1-1, Higashi 1-chome, Tsukuba-shi, Ibaraki 305-0046, (JP)
YUASA, Shinji, Nat. Inst. Adv. Ind.Sci.&Tech., 1-1, Higashi 1-chome, Tsukuba-shi, Ibaraki 305-0046, (JP)
SUZUKI, Yoshishige, Nat. Inst. Adv. Ind.Sci.&Tech., 1-1, Higashi 1-chome, Tsukuba-shi, Ibaraki 305-0046, (JP)
LEGAL REPRESENTATIVE:
Carstairs, J. C. (29181), Forrester & Boehmert, Pettenkoferstrasse 20-22, 80336 Munchen, (DE)
PATENT (CC, No, Kind, Date): EP 1391942 A1 040225 (Basic)
WO 2002099905 021212
APPLICATION (CC, No, Date): EP 2002730704 020524; WO 2002JP5049 020524
PRIORITY (CC, No, Date): JP 2001163757 010531; JP 2001279289 010914; JP 2002121121 020423
DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI; LU; MC; NL; PT; SE; TR
EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI
INTERNATIONAL PATENT CLASS: H01L-043/08; G01R-033/09; G11B-005/39; H01F-010/32; H01L-027/105
ABSTRACT WORD COUNT: 81
NOTE:
Figure number on first page: 3

LANGUAGE (Publication,Procedural,Application): English; English; Japanese
FULLTEXT AVAILABILITY:

| Available Text | Language | Update | Word Count |
|---|---|---|---|
| CLAIMS A | (English) | 200409 | 640 |
| SPEC A | (English) | 200409 | 6108 |
| Total word count - document A | | | 6748 |
| Total word count - document B | | | 0 |
| Total word count - documents A + B | | | 6748 |

...SPECIFICATION further an alumina barrier (Al-O barrier) 113 and a polycrystalline ferromagnetic upper electrode (Ni- **Fe** **polycrystal** ) 114 are deposited. The **magnetoresistive** effect of this element at low bias varies like oscillation depending on the thickness of the Cu **layer** 112, as shown in Fig. 8. This obviously shows that the presence of the Cu...

**24/3,K/4 (Item 4 from file: 348)**
DIALOG(R)File 348:EUROPEAN PATENTS

(c) 2005 European Patent Office. All rts. reserv.

00924514
**Spin-valve GMR sensor with inbound exchange stabilization**
**Spin-Ventil GMR Sensor mit Austauschstabilisierung**
**Capteur GMR a valve de spin avec stabilisation d'echange**
PATENT ASSIGNEE:
  READ-RITE CORPORATION, (824840), 345 Los Coches Street, Milpitas
    California 95035, (US), (Proprietor designated states: all)
INVENTOR:
  Ravipati, Durga P., 12138 Atrium Drive, Saratoga, California 95070, (US)
  Yuan, Samuel W., 160 Oaks View Drive, San Carlos, California 94070, (US)
LEGAL REPRESENTATIVE:
  Korber, Wolfhart, Dr. rer.nat. et al (44475), Patentanwalte Mitscherlich
    & Partner, Sonnenstrasse 33, 80331 Munchen, (DE)
PATENT (CC, No, Kind, Date):  EP 843303  A2  980520 (Basic)
                              EP 843303  A3  980624
                              EP 843303  B1  010411
APPLICATION (CC, No, Date):   EP 97118958 971030;
PRIORITY (CC, No, Date): US 748063 961113
DESIGNATED STATES: DE; NL
INTERNATIONAL PATENT CLASS: G11B-005/00; G11B-005/39
ABSTRACT WORD COUNT: 183
NOTE:
  Figure number on first page: 5

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

| Available Text | Language | Update | Word Count |
|---|---|---|---|
| CLAIMS A | (English) | 199821 | 1188 |
| CLAIMS B | (English) | 200115 | 1245 |
| CLAIMS B | (German) | 200115 | 1169 |
| CLAIMS B | (French) | 200115 | 1306 |
| SPEC A | (English) | 199821 | 4354 |
| SPEC B | (English) | 200115 | 4471 |
| Total word count - document A | | | 5543 |
| Total word count - document B | | | 8191 |
| Total word count - documents A + B | | | 13734 |

...CLAIMS as set forth in any one of claims 10 to 13 wherein said electrical lead **layers** (86, 88) and said spacer **layer** (78) are made of a material selected from a group consisting of **copper** , **gold** and silver.

15. The magnetoresistive transducer (48) as set forth in any one of claims...magnetoresistive transducer (48) as set forth in claim 18 or 19 wherein said electrical lead **layers** (86, 88) and said spacer **layer** (78) are made of a material selected from a group consisting of **copper** , **gold** and silver.
21. The magnetoresistive transducer (48) as set forth in any one of claims 18 to 20 wherein said spacer **layer** (78) comprises tantalum.
22. A magnetoresistive transducer (48) comprising:
 first and second layers (80, 82...

...CLAIMS group consisting of nickel oxide, cobalt oxide, nickel cobalt oxide, and ferric oxide.

14. The **magnetoresistive** transducer (48) as set forth in any one of claims 10 to 13 wherein said electrical **lead** **layers** (86, 88) and said spacer **layer** (78) are made of a material selected from a group consisting of **copper** , **gold** and silver.
15. The magnetoresistive transducer (48) as set forth in any one of

claims...magnetoresistive transducer (48) as set forth in claim 18 or 19 wherein said electrical lead **layers** (86, 88) and said spacer **layer** (78) are made of a material selected from a group consisting of **copper** , **gold** and silver.

21. The magnetoresistive transducer (48) as set forth in any one of claims 18 to 20 wherein said spacer **layer** (78) comprises tantalum.
22. A magnetoresistive transducer (48) as set forth in claim 1 comprising ...

**24/3,K/5 (Item 5 from file: 348)**

DIALOG(R)File 348:EUROPEAN PATENTS

(c) 2005 European Patent Office. All rts. reserv.

00827497

**High density giant magnetoresistive transducer with recessed sensor**
**Riesenmagnetoresistiver Wandler hoher Dichtheit mit zuruckgesetztem Sensor**
**Transducteur magnetoresistif geant a haute densite a capteur en retrait**

PATENT ASSIGNEE:
READ-RITE CORPORATION, (824840), 345 Los Coches Street, Milpitas California 95035, (US), (applicant designated states: DE;NL)

INVENTOR:
Yuan, Samuel W., 664 Morse Avenue, No.8, Sunnyvale, California 94086, (US)
Rottmayer, Robert Earl, 2181 Ocaso Camino, Fremont, California 94539, (US)

LEGAL REPRESENTATIVE:
Korber, Wolfhart, Dr. rer.nat. et al (44475), Patentanwalte Mitscherlich & Partner, Sonnenstrasse 33, 80331 Munchen, (DE)

PATENT (CC, No, Kind, Date): EP 768643 A2 970416 (Basic)
EP 768643 A3 990107

APPLICATION (CC, No, Date): EP 96116184 961009;
PRIORITY (CC, No, Date): US 541441 951010
DESIGNATED STATES: DE; NL
INTERNATIONAL PATENT CLASS: G11B-005/39; G11B-005/40;
ABSTRACT WORD COUNT: 144

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

| Available Text | Language | Update | Word Count |
|---|---|---|---|
| CLAIMS A | (English) | EPAB97 | 211 |
| SPEC A | (English) | EPAB97 | 1921 |
| Total word count - document A | | | 2132 |
| Total word count - document B | | | 0 |
| Total word count - documents A + B | | | 2132 |

...SPECIFICATION valve mechanism which may be employed in the present invention. The structure includes a pinning **layer** 31 of a suitable conductive material such as FeMn which functions to magnetically pin a ferromagnetic **layer** 32 of NiFe or Co. A spacer **layer** 33 of **Cu** , **Au** , Ag, Cr or other suitable transition metal or noble metal is located adjacent to pinned **layer** 32. A free magnetic **layer** 34 of NiFe or Co is positioned adjacent to the other side of spacer **layer** 33. Nonmagnetic, conductive **layers** 30, 35 are disposed adjacent to **layers** 31, 14, respectively. The elements of the **GMR** sensor, elements 31-35, are identified in Fig 4 by reference numeral 40. A **conductor** **layer** 36 is located adjacent to free **layer** 34 and a **conductor** **layer** 37 is located adjacent to pinning **layer** 31. **Layers** 36, 37 carry sense current, whose direction is shown by the arrows, for providing an...

...sensing current flows perpendicular to the elements 40 to produce operation in a CPP mode. **Conductor** **layers** 36, 37also act as magnetic shields for the **GMR** sensor.
Although the embodiment of Fig 4 illustrates a GMR sensor utilizing a spin valve...

**24/3,K/6 (Item 6 from file: 348)**
DIALOG(R)File 348:EUROPEAN PATENTS
(c) 2005 European Patent Office. All rts. reserv.

00695282
**MAGNETO-RESISTANCE DEVICE, AND MAGNETIC HEAD EMPLOYING SUCH A DEVICE**
**MAGNETORESISTIVE ANORDNUNG UND DIESE VERWENDENDER MAGNETKOPF**
**MAGNETORESISTANCE ET TETE MAGNETIQUE L'UTILISANT**
PATENT ASSIGNEE:
Koninklijke Philips Electronics N.V., (200769), Groenewoudseweg 1, 5621 BA Eindhoven, (NL), (applicant designated states: DE;FR;GB)
INVENTOR:
GIJS, Martinus, Adela, Maria, Groenewoudseweg 1, NL-5621 BA Eindhoven, (NL)
KELLY, Paul, Joseph, Groenewoudseweg 1, NL-5621 BA Eindhoven, (NL)
LEGAL REPRESENTATIVE:
Stolk, Steven Adolph et al (69562), INTERNATIONAAL OCTROOIBUREAU B.V., Prof. Holstlaan 6, 5656 AA Eindhoven, (NL)
PATENT (CC, No, Kind, Date): EP 672303 A1 950920 (Basic)
EP 672303 B1 971203
WO 9510123 950413
APPLICATION (CC, No, Date): EP 94924979 940913; WO 94IB275 940913
PRIORITY (CC, No, Date): EP 93202835 931006
DESIGNATED STATES: DE; FR; GB
INTERNATIONAL PATENT CLASS: H01L-043/08; H01L-043/10; G01R-033/09; G11B-005/39;
NOTE:
No A-document published by EPO
LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

| Available Text | Language | Update | Word Count |
|---|---|---|---|
| CLAIMS B | (English) | 9711W4 | 129 |
| CLAIMS B | (German) | 9711W4 | 120 |
| CLAIMS B | (French) | 9711W4 | 136 |
| SPEC B | (English) | 9711W4 | 3599 |
| Total word count - document A | | | 0 |
| Total word count - document B | | | 3984 |
| Total word count - documents A + B | | | 3984 |

...SPECIFICATION Au, Cr, LiTi2))O4)), etc.). However, for a suitable match of materials in the ferromagnetic **layers** and the interposed non-ferromagnetic conductor **layer** , an inventive device comprising such a conductor **layer** can also demonstrate a very large **magneto** - **resistance** effect.
The invention and its attendant advantages will be further elucidated with the aid of...

**24/3,K/7 (Item 7 from file: 348)**
DIALOG(R)File 348:EUROPEAN PATENTS
(c) 2005 European Patent Office. All rts. reserv.

00601334

**Magnetic sensor.**
**Magnetischer Sensor.**
**Senseur magnetique.**
PATENT ASSIGNEE:
International Business Machines Corporation, (200120), Old Orchard Road, Armonk, N.Y. 10504, (US), (applicant designated states: DE;FR;GB)
INVENTOR:
Chen, Mao-Min, 1025 Woodview Place, San Jose, California 95120, (US)
Kung, Kenneth Ting-Yuan, 6168 Paseo Pueblo Drive, San Jose, California 95120, (US)
Lee, Rodney Edgar, 17845 Northwood Place, Salinas, California 93907, (US)
Robertson, Neil Leslie, 1125 Bent Drive, Campbell, California 95008, (US)
LEGAL REPRESENTATIVE:
Burt, Roger James, Dr. (52152), IBM United Kingdom Limited Intellectual Property Department Hursley Park, Winchester Hampshire SO21 2JN, (GB)
PATENT (CC, No, Kind, Date): EP 590905 A2 940406 (Basic)
EP 590905 A3 950705
APPLICATION (CC, No, Date): EP 93307625 930927;
PRIORITY (CC, No, Date): US 955820 921002
DESIGNATED STATES: DE; FR; GB
INTERNATIONAL PATENT CLASS: G11B-005/39;
ABSTRACT WORD COUNT: 156

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

| Available Text | Language | Update | Word Count |
|---|---|---|---|
| CLAIMS A | (English) | EPABF2 | 896 |
| SPEC A | (English) | EPABF2 | 4213 |
| Total word count - document A | | | 5109 |
| Total word count - document B | | | 0 |
| Total word count - documents A + B | | | 5109 |

...SPECIFICATION and silver. U.S. Patent No. 4,663,684 to Kamo, et al. describes an **MR** sensor in which the conductive **lead** structures are formed of gold or aluminum.
Other conductive lead structures have utilized multi- **layer** configurations. U.S. Patent No. 4,503,394 discloses an MR sensor in which the...

**24/3,K/8 (Item 8 from file: 348)**
DIALOG(R)File 348:EUROPEAN PATENTS
(c) 2005 European Patent Office. All rts. reserv.

00598676
**Magnetoresistive sensor having antiferromagnetic layer for exchange bias**
**Magnetoresistiver Sensor mit antiferromagnetischer Schicht zur Austausch-Vormagnetisierung**
**Capteur magnetoresistive avec couche antiferromagnetique pour polarisation d'echange**
PATENT ASSIGNEE:
International Business Machines Corporation, (200120), Old Orchard Road, Armonk, N.Y. 10504, (US), (applicant designated states: DE;FR;GB)
INVENTOR:
Lin, Tsann, 4017 Sadie Court, Campbell, Ca 95008, (US)
Howard, James Kent, 2705 Casa Grande, Morgan Hill, CA 95037, (US)
Hwang, Cherngye, 6713 San Anselmo Way, San Jose, CA 95119, (US)
Mauri, Daniele, 4990 Eberly Drive, San Jose, CA 95111, (US)
Staud, Norbert, 468 Broderick Drive, San Jose, Ca 95111, (US)
LEGAL REPRESENTATIVE:

Burt, Roger James, Dr. (52152), IBM United Kingdom Limited Intellectual Property Department Hursley Park, Winchester Hampshire SO21 2JN, (GB)
PATENT (CC, No, Kind, Date): EP 581418 A1 940202 (Basic)
EP 581418 B1 980107
APPLICATION (CC, No, Date): EP 93303991 930521;
PRIORITY (CC, No, Date): US 920943 920728
DESIGNATED STATES: DE; FR; GB
INTERNATIONAL PATENT CLASS: G11B-005/39; G01R-033/06;
ABSTRACT WORD COUNT: 145

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

| Available Text | Language | Update | Word Count |
|---|---|---|---|
| CLAIMS B | (English) | 9802 | 865 |
| CLAIMS B | (German) | 9802 | 872 |
| CLAIMS B | (French) | 9802 | 1055 |
| SPEC B | (English) | 9802 | 4930 |
| Total word count - document A | | | 0 |
| Total word count - document B | | | 7722 |
| Total word count - documents A + B | | | 7722 |

...SPECIFICATION accordance with the principles of the present invention comprises a substrate 45, a first spacer **layer** 47 and antiferromagnetic **layer** 49 underlying the end portions 57 only of an **MR** **layer** 51 and a transverse bias **layer** 53 separated from the **MR** **layer** 51 by a second spacer **layer** 54 underlying the central portion 59 of the **MR** **layer** 51. The **MR** **layer** 51 which is formed of a ferromagnetic material such as Ni81Fe19, for example, is attached to electrical **conduc**tors 55 and, in a similar manner as described above with reference to Fig. 2, provides an output current representative of the resistance changes in the central portion 59 of the **MR** **layer** . The antiferromagnetic **layer** 49 is of an antiferromagnetic Mn alloy having an ordered **CuAu** -I fct type structure, preferably fct Ni-Mn, while the first spacer **layer** 47, referred to as the underlayer, is of a suitable material, preferably zirconium (Zr), to achieve a high and thermally stable HUA in the **MR** **layer** 51. This inverted configuration, i.e., the antiferromagnetic **layer** underlying the **MR** **layer** , provides an **MR** sensor 50 wherein the **conductor** leads 55 are deposited directly on the **MR** **layer** in physical contact with the **MR** **layer** as compared to the **MR** sensor described hereinabove with reference to Fig. 4 wherein the **conductor** leads are deposited over the antiferromagnetic **layer** . The total thickness of the antiferromagnetic **layer** 49 and the underlayer 47 should be comparable to that of the transverse bias **layer** 53 and the second spacer **layer** 54. In current prior art **MR** sensors utilizing an Ni-Fe-Rh alloy for the transverse bias **layer** and Ta for the second spacer **layer** , for example, the thicknesses of the Ni-Fe-Rh, Ta and Ni-Fe films are...

...thickness of the antiferromagnetic film and the underlayer should be about 41 nm for current **MR** sensors, for example.

Referring now to Figs. 11 - 14, in order to provide an underlying antiferromagnetic **layer** having the required exchange coupling requirements and improved corrosion resistant characteristics when compared to Fe...

**24/3,K/9 (Item 9 from file: 348)**
DIALOG(R)File 348:EUROPEAN PATENTS
(c) 2005 European Patent Office. All rts. reserv.

00570410
**Magnetic sensor.**
**Magnetischer Sensor.**
**Capteur magnetique.**
PATENT ASSIGNEE:
International Business Machines Corporation, (200120), Old Orchard Road, Armonk, N.Y. 10504, (US), (applicant designated states: DE;FR;GB)
INVENTOR:
Howard, James Kent, 2705 Cas Grande Court, Morgan Hill, California 95037, (US)
Hwang, Chernyge, 6713 San Anselmo Way, San Jose, California 95119, (US)
Lee, James Hsi-tang, 1169 Valley Quail Circle, San Jose, California 95120, (US)
LEGAL REPRESENTATIVE:
Burt, Roger James, Dr. (52152), IBM United Kingdom Limited Intellectual Property Department Hursley Park, Winchester Hampshire SO21 2JN, (GB)
PATENT (CC, No, Kind, Date): EP 552890 A2 930728 (Basic)
EP 552890 A3 940223
APPLICATION (CC, No, Date): EP 93300239 930114;
PRIORITY (CC, No, Date): US 822776 920121
DESIGNATED STATES: DE; FR; GB
INTERNATIONAL PATENT CLASS: G01R-033/06; G11B-005/00; G11B-005/39;
ABSTRACT WORD COUNT: 97

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

| Available Text | Language | Update | Word Count |
|---|---|---|---|
| CLAIMS A | (English) | EPABF1 | 506 |
| SPEC A | (English) | EPABF1 | 2656 |
| Total word count - document A | | | 3162 |
| Total word count - document B | | | 0 |
| Total word count - documents A + B | | | 3162 |

...SPECIFICATION and silver. U.S. Patent No. 4,663,684 to Kamo, et al. describes an **MR** sensor in which the conductive **lead** structures are formed of gold or aluminum.
Other conductive lead structures have utilized multi- **layer** configurations. U.S. Patent No. 4,503,394 discloses an MR sensor in which the...

**24/3,K/10 (Item 10 from file: 348)**
DIALOG(R)File 348:EUROPEAN PATENTS
(c) 2005 European Patent Office. All rts. reserv.

00490599
**Magnetoresistive sensor**
**Magnetoresistiver Fuhler**
**Capteur magnetoresistif**
PATENT ASSIGNEE:
International Business Machines Corporation, (200120), Old Orchard Road, Armonk, N.Y. 10504, (US), (Proprietor designated states: all)
INVENTOR:
Dieny, Bernard, 5435 Entrada Cedros, San Jose, California 95125, (US)
Gurney, Bruce Alvin, 3770 Flora Vista Avenue, No.1308, Santa Clara, California 95051, (US)
Lambert, Steven Eugene, 6506 Hidden Creek Drive, San Jose, California 95120, (US)
Mauri, Daniele, 4490 Eberly Drive, San Jose, California 95111, (US)
Parkin, Stuart Stephen Papworth, 6264 Royal Oak Court, San Jose,

California 95123, (US)
Speriosu, Virgil Simon, 351 St. Julian Drive, San Jose, California 95119, (US)
Wilhoit, Dennis Richard, 575 Spring Hill Drive, Morgan Hill, California 95037, (US)

LEGAL REPRESENTATIVE:
Burt, Roger James, Dr. (52152), IBM United Kingdom Limited Intellectual Property Department Hursley Park, Winchester Hampshire SO21 2JN, (GB)

PATENT (CC, No, Kind, Date): EP 490608 A2 920617 (Basic)
EP 490608 A3 930526
EP 490608 B1 000308

APPLICATION (CC, No, Date): EP 91311417 911209;
PRIORITY (CC, No, Date): US 625343 901211
DESIGNATED STATES: BE; CH; DE; FR; GB; IT; LI; NL; SE
INTERNATIONAL PATENT CLASS: G01R-033/06; H01F-010/08
ABSTRACT WORD COUNT: 196
NOTE:
Figure number on first page: 5

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

| Available Text | Language | Update | Word Count |
|---|---|---|---|
| CLAIMS B | (English) | 200010 | 560 |
| CLAIMS B | (German) | 200010 | 523 |
| CLAIMS B | (French) | 200010 | 611 |
| SPEC B | (English) | 200010 | 3099 |
| Total word count - document A | | | 0 |
| Total word count - document B | | | 4793 |
| Total word count - documents A + B | | | 4793 |

...SPECIFICATION and having a substantially linear response at small applied fields.

Accordingly the invention provides a **magnetoresistive** sensor comprising: a first and a second thin film **layer** of ferromagnetic material separated by a thin film spacer **layer** , the magnetization direction of said first **layer** of ferromagnetic material being substantially perpendicular to the magnetization direction of said second **layer** of ferromagnetic material at zero applied magnetic field; conductor means for applying a current flow through said **magnetoresistive** sensor to permit the sensing of variations in the resistivity of said **magnetoresistive** sensor; the sensor being characterised in that: the spacer **layer** is comprised of a non-magnetic metallic material selected from the group consisting of Ag, **Cu** , **Au** , Pt and Pd; and in that the variations in resistivity of the **magnetoresistive** sensor are due to the difference in rotation of the magnetization directions in said **layers** of ferromagnetic materials as a function of the magnetic field being sensed.

In a preferred...

**24/3,K/11 (Item 11 from file: 348)**
DIALOG(R)File 348:EUROPEAN PATENTS
(c) 2005 European Patent Office. All rts. reserv.

00462872
**Magnetoresistance-effect thin film head**
**Magnetwiderstandseffekt-Dunnfilmkopf**
**Tete a film mince a effet magnetoresistif**
PATENT ASSIGNEE:
SONY CORPORATION, (214022), 7-35, Kitashinagawa 6-chome Shinagawa-ku,

Tokyo, (JP), (applicant designated states: DE;FR;GB)
INVENTOR:
Shibata, Takuji, c/o SONY MAGNETIC, PRODUCTS, INC., 5-6, Kitashinagawa 6-chome, Shinagawa-ku, Tokyo, (JP)
LEGAL REPRESENTATIVE:
TER MEER - MULLER - STEINMEISTER & PARTNER (100061), Mauerkircherstrasse 45, D-81679 Munchen, (DE)
PATENT (CC, No, Kind, Date): EP 459404 A2 911204 (Basic)
EP 459404 A3 920115
EP 459404 B1 960124
APPLICATION (CC, No, Date): EP 91108704 910528;
PRIORITY (CC, No, Date): JP 90140685 900530
DESIGNATED STATES: DE; FR; GB
INTERNATIONAL PATENT CLASS: G11B-005/39;
ABSTRACT WORD COUNT: 150

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

| Available Text | Language | Update | Word Count |
|---|---|---|---|
| CLAIMS A | (English) | EPABF1 | 287 |
| CLAIMS B | (English) | EPAB96 | 186 |
| CLAIMS B | (German) | EPAB96 | 153 |
| CLAIMS B | (French) | EPAB96 | 223 |
| SPEC A | (English) | EPABF1 | 4031 |
| SPEC B | (English) | EPAB96 | 3993 |
| Total word count - document A | | | 4318 |
| Total word count - document B | | | 4555 |
| Total word count - documents A + B | | | 8873 |

...SPECIFICATION resistant material, such as Ti, Mo, W, Cr, SuS or C, and a principal conductive **layer** 27 formed of a metal having a comparatively small resistivity, such as **Cu** , **Au** or Al. If the principal conductive **layer** 27 is formed of a metal having an inferior adhesive property, such as Au, a bonding metal **layer** 28, such as a Ti **layer** or a Mo **layer** , is formed on the principal conductive **layer** 27. A portion of the front **electrode** 15A contiguous with the sliding surface a, namely, a portion extending as deep as 0...
...or above from the sliding surface a, is formed only of the moisture-resistant conductive **layer** 26. In this embodiment, a portion of the front **electrode** 15A connected to the **MR** element 13 is formed only of the moisture-resistant conductive **layer** 26. The bias **conductor** 16 may be the same laminated metal **layer** as that forming the **electrodes** 15A and 15B. The front **electrode** 15A can readily be formed by a process comprising steps of sequentially forming the moisture-resistant conductive **layer** 26, the principal conductive **layer** 27 and the bonding metal **layer** 28 in that order in the shape of the **electrode** on the insulating **layer** 14 including a contact hole, etching a portion of the superposed bonding metal **layer** 28 contiguous with the sliding surface a and connected to the **MR** element 13, and a portion of the principal conductive **layer** 27 corresponding to that of the bonding metal **layer** 28 by ion milling using a resist mask, and stopping the etching operation upon the...

...SPECIFICATION thin film head 25 is formed only of a portion of the moisture-resistant conductive **layer** .
Referring to Figs. 8 and 9, the **MR** element 13 of the said two- **layer** construction is formed on a substrate so as to extend in a direction perpendicular to the sliding surface. An **electrode** **layer** 15 for supplying, a sense current i( sub(S)) to the **MR** element in the direction of a signal magnetic field has a front **electrode** 15A

connected to the front end of the MR element 13 and a rear **electrode** 15B connected to the rear end of the **MR** element 13. A bias **conductor** 16 is formed so as to extend across the **MR** element 13 on an insulating **layer** 14 covering the **MR** element 13. A magnetic shielding **layer** 19 is formed on an insulating **layer** 18 so as to shield the **MR** element 13. The front **electrode** 15A and the rear **electrode** 15B connected to the **MR** element 13 consist of a moisture-resistant conductive **layer** 26 formed of a moisture-resistant material, such as Ti, Mo, W, Cr, SuS or C, and a principal conductive **layer** 27 formed of a metal having a comparatively small resistivity, such as **Cu** , **Au** or Al. If the principal conductive **layer** 27 is formed of a metal having an inferior adhesive property, such as Au, a bonding metal **layer** 28, such as a Ti **layer** or a Mo **layer** , is formed on the principal conductive **layer** 27. A portion of the front **electrode** 15A contiguous with the sliding surface a, namely, a portion extending as deep as 0...

...or above from the sliding surface a, is formed only of the moisture-resistant conductive **layer** 26. In this embodiment, a portion of the front **electrode** 15A connected to the **MR** element 13 is formed only of the moisture-resistant conductive **layer** 26. The bias **conductor** 16 may be the same laminated metal **layer** as that forming the **electrodes** 15A and 15B. The front **electrode** 15A can readily be formed by a process comprising steps of sequentially forming the moisture-resistant conductive **layer** 26, the principal conductive **layer** 27 and the bonding metal **layer** 28 in that order in the shape of the **electrode** on the insulating **layer** 14 including a contact hole, etching a portion of the superposed bonding metal **layer** 28 contiguous with the sliding surface a and connected to the **MR** element 13, and a portion of the principal conductive **layer** 27 corresponding to that of the bonding metal **layer** 28 by ion milling using a resist mask, and stopping the etching operation upon the...

**24/3,K/12 (Item-12 from file: 348)**
DIALOG(R)File 348:EUROPEAN PATENTS
(c) 2005 European Patent Office. All rts. reserv.

00367020
**Magnetoresistive read transducer assembly.**
**Zusammenbau eines magnetoresistiven Lesewandlers.**
**Assemblage de transducteur de lecture magnetoresistif.**
PATENT ASSIGNEE:
International Business Machines Corporation, (200120), Old Orchard Road, Armonk, N.Y. 10504, (US), (applicant designated states: DE;FR;GB)
INVENTOR:
Howard, James K., 2705 Casa Grande, Morgan Hill California 95037, (US)
Huang, Hung-Chang W., 7004 Quail Cliff Way, San Jose California 95120, (US)
Hwang, Cherngye, 6713 San Anselmo Way, San Jose California 95119, (US)
LEGAL REPRESENTATIVE:
Burt, Roger James, Dr. et al (52152), IBM United Kingdom Limited Intellectual Property Department Hursley Park, Winchester Hampshire SO21 2JN, (GB)
PATENT (CC, No, Kind, Date): EP 355044 A2 900221 (Basic)
EP 355044 A3 900418
EP 355044 B1 940608
APPLICATION (CC, No, Date): EP 89306803 890704;
PRIORITY (CC, No, Date): US 234250 880818
DESIGNATED STATES: DE; FR; GB
INTERNATIONAL PATENT CLASS: G11B-005/39;

ABSTRACT WORD COUNT: 72

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

| Available Text | Language | Update | Word Count |
|---|---|---|---|
| CLAIMS A | (English) | EPBBF1 | 155 |
| CLAIMS B | (English) | EPBBF1 | 127 |
| CLAIMS B | (German) | EPBBF1 | 139 |
| CLAIMS B | (French) | EPBBF1 | 172 |
| SPEC A | (English) | EPBBF1 | 1634 |
| SPEC B | (English) | EPBBF1 | 1508 |
| Total word count - document A | | | 1789 |
| Total word count - document B | | | 1946 |
| Total word count - documents A + B | | | 3735 |

...SPECIFICATION and silver. US-A- 4,663,684 discloses an MR sensor in which the conductive **lead** structures are formed of gold or aluminium. US-A-4,503,394 discloses an **MR** sensor in which the conductive **lead** structures are formed of a two **layer** assembly in which the first **layer** is made from a material selected from the group consisting of Cr, Mo, and Ti...

...SPECIFICATION and silver. US-A- 4,663,684 discloses an MR sensor in which the conductive **lead** structures are formed of gold or aluminium. US-A-4,503,394 discloses an **MR** sensor in which the conductive **lead** structures are formed of a two **layer** assembly in which the first **layer** is made from a material selected from the group consisting of Cr, Mo, and Ti...

**24/3,K/13 (Item 1 from file: 349)**
DIALOG(R)File 349:PCT FULLTEXT
(c) 2005 WIPO/Univentio. All rts. reserv.

01122554 **Image available**
**INTERMETALLIC ARTICLES OF MANUFACTURE HAVING HIGH ROOM TEMPERATURE DUCTILITY**
**ARTICLES INTERMETALLIQUES DE FABRICATION FAISANT PREUVE D'UNE APTITUDE AU PLIAGE ELEVEE A TEMPERATURE AMBIANTE**
Patent Applicant/Assignee:
IOWA STATE UNIVERSITY RESEARCH FOUNDATION INC, 310 Lab of Mechanics, Ames, IO 50011-2131, US, US (Residence), US (Nationality), (For all designated states except: US)
Patent Applicant/Inventor:
GSCHNEIDNER Karl A Jr, 2215 Duff, Ames, IA 50010, US, US (Residence), US (Nationality), (Designated only for: US)
PECHARSKY Alexandra O, 2621 Green Hills Drive, Ames, IA 50014, US, US (Residence), US (Nationality), (Designated only for: US)
PECHARSKY Vitalij K, 2621 Green Hills Drive, Ames, IA 50014, US, US (Residence), US (Nationality), (Designated only for: US)
RUSSELL Alan M, 1713 Amherst Drive, Ames IA 50014, US, US (Residence), US (Nationality), (Designated only for: US)
Legal Representative:
TIMMER Edward J (agent), P.O. Box 770, Richland, MI 49083, US,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200444249 A2 20040527 (WO 0444249)
Application: WO 2003US35575 20031110 (PCT/WO US03035575)
Priority Application: US 2002425964 20021113
Designated States:
(Protection type is "patent" unless otherwise stated - for applications

prior to 2004)
AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ
EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR
LS LT LU LV MA MD MG MK MN MW MX MZ NI NO NZ OM PG PH PL PT RO RU SC SD
SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
(EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC NL PT RO SE
SI SK TR
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
(AP) BW GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Publication Language: English
Filing Language: English
Fulltext Word Count: 12322

Fulltext Availability:
Detailed Description
Detailed Description
... a dental component, component of a medical device, jewelry (particularly black gold formed by oxide **layers** on the RM material where M = Au), catalyst, getter, diffusion barrier component, an electrical component such as for example a resistor, an **electrical contact** , an **electrical** sensor, a battery component, micro-electro-mechanical system (MEMS), a magnetic component such as, for...

**24/3,K/14 (Item 2 from file: 349)**
DIALOG(R)File 349:PCT FULLTEXT
(c) 2005 WIPO/Univentio. All rts. reserv.

01074873 **Image available**
**SLIDER DEPOSITS FOR CONTROL OF POLE-TO-DISC SPACING**
**DEPOTS SUR PATIN DESTINES A LA REGULATION D'ESPACEMENT POLE-DISQUE**
Patent Applicant/Assignee:
SEAGATE TECHNOLOGY LLC, 920 Disc Drive, Scotts Valley, CA 95066, US, US (Residence), US (Nationality)
Inventor(s):
SERPE Catalin I, 577 South Owasso Boulevard, Roseville, MN 55113, US,
PUST Ladislav R, 5695 South Park Drive, Savage, MN 55378, US,
OLIM Moshe, 7210 Green Ridge Drive, Eden Prairie, MN 55346, US,
HIPWELL Mary C, 3101 Dean Court, Minneapolis, MN 55416, US,
PENDRAY John R, 4000 Parklawn Avenue, #326, Edina, MN 55435, US,
Legal Representative:
DIETZ Paul T (agent), Seagate Technology LLC, Intellectual Property Department - NRW097, 7801 Computer Avenue South, Bloomington, MN 55435, US,
Patent and Priority Information (Country, Number, Date):
Patent: WO 2003105134 A1 20031218 (WO 03105134)
Application: WO 2002US14379 20020607 (PCT/WO US0214379)
Priority Application: WO 2002US14379 20020607
Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ
EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR
LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI
SK SL TJ TM TN TR TT TZ UA UG UZ VN YU ZA ZM ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW
(EA) AM AZ BY KG KZ MD RU TJ TM

Publication Language: English
Filing Language: English
Fulltext Word Count: 6147

Fulltext Availability:
  Detailed Description

Detailed Description
... pole 204. Layer 213 is typically made from A1203 and forms a bond to basecoat **layer** 202.

A read sensor 205 is formed in a very thin **layer** between lower shield 203 and shared pole 204. Read sensor 205 is typically a inagnetoresistive (NM) or giant **magnetoresistive** ( **GMR** ) sensor. 0 For clarity, **electrical** leads and **contacts** , formed from **Cu** , **Au** , or other metals or metallic alloys in a conventional manner are not illustrated in FIG. 2.

An insulating overcoat or topcoat **layer** 21 0 is deposited on the top of all the transducer 214. Overcoat layer 21...

**24/3,K/15 (Item 3 from file: 349)**
DIALOG(R)File 349:PCT FULLTEXT
(c) 2005 WIPO/Univentio. All rts. reserv.

00952718 **Image available**
**NON-MAGNETIC METALLIC LAYER IN A READER GAP OF A DISC DRIVE**
**COUCHE METALLIQUE NON MAGNETIQUE PLACEE DANS UN ENTREFER DE LECTEUR**
Patent Applicant/Assignee:
  SEAGATE TECHNOLOGY LLC, 920 Disc Drive, Scotts Valley, CA 95066, US, US (Residence), US (Nationality)
Inventor(s):
  DIMITROV Dimitar V, 5709 68th Street West, Edina, MN 55439, US,
  KAUTZKY Michael C, 4143 Cashell Glen, Eagan, MN 55122, US,
  GANGOPADYAY Sunita B, 8571 mission Hill Lane, Chanhassen, MN 55317, US,
  RAMDULAR Jumma P, 9002 Vickors Crossing, Brooklyn Park, MN 55443, US,
  BOUNNAKHOM Sisavath, 14433 Joppa Avenue South, Savage, MN 55378, US,
  TSU I-Fei, 5230 West 102 Street, Apt. 204, Bloomington, MN 55437, US,
  LAMBERTON Robert W, 122 Bolea Road, Limavady, Co. Londonderry BT49 0QU, GB,
Legal Representative:
  DIETZ Paul T (agent), Seagate Technology LLC, Intellectual Property Department-NRW097, 7801 Computer Avenue South, Bloomington, MN 55345, US,
Patent and Priority Information (Country, Number, Date):
  Patent: WO 200286871 A1 20021031 (WO 0286871)
  Application: WO 2002US9721 20020327 (PCT/WO US0209721)
  Priority Application: US 2001284624 20010418
Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
  AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG UZ VN YU ZA ZM ZW
  (EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
  (OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
  (AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW
  (EA) AM AZ BY KG KZ MD RU TJ TM
Publication Language: English

Filing Language: English
Fulltext Word Count: 5730

Fulltext Availability:
  Detailed Description

Detailed Description
... 205. Layer 213 is typically made from A1103 and forms a bond to the basecoat **layer** 202. One or more thermally conductive nonmagnetic metallic **layer** (shmvn, for example, in enlarged FIGS. 6 ) are also arranged around the magnetoresistive read sensor 205.

For clarity, **electrical** leads and **contacts** , formed from **Cu** , **Au** , or other
metals or metallic alloys in a conventional manner are not illustrated in FIG. 3,
One or more insulating overcoat or topcoat **layers** 210 are deposited on the top of all the transducer 214. Overcoat **layer** 21 0 is typically also made from A1203 or other known dielectrics. Overcoat **layer** 210 is preferably planarized after deposition to expose **electrical** **contacts** (not illustrated) for the coil 207 and 2 5 the **magnetoresistive** read sensor 205 in the transducer 214.

A-fter the read/write head 200 is...

**24/3,K/16 (Item 4 from file: 349)**
DIALOG(R)File 349:PCT FULLTEXT
(c) 2005 WIPO/Univentio. All rts. reserv.

00450075 **Image available**
**ELECTROPLATING APPARATUS AND PROCESS FOR REDUCING OXIDATION OF OXIDIZABLE PLATING ANIONS AND CATIONS**
**APPAREIL ET PROCEDE D'ELECTRODEPOSITION PERMETTANT DE REDUIRE UNE OXYDATION D'ANIONS ET DE CATIONS DE REVETEMENT OXYDABLES**
Patent Applicant/Assignee:
  QUANTUM CORPORATION,
Inventor(s):
  CALHOUN Robert B,
  JOHNS Earl C,
Patent and Priority Information (Country, Number, Date):
  Patent: WO 9840539 A1 19980917
  Application: WO 98US5050 19980313 (PCT/WO US9805050)
  Priority Application: US 97818472 19970313
Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
  AU CA CN JP KR SG AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE
Publication Language: English
Fulltext Word Count: 11338
Fulltext Availability:
  Detailed Description

Detailed Description
... described in, for example, commonly assigned U.S. Patent 5,483,402 to Batra.

The **magnetoresistive** reading element 210 on the substrate is embedded between the two shields 215, 220. A magnetically permeable **layer**

serves as the first bottom shield 215 and is about 2 microns thick. The magnetically...

...CoFeX, CoNiX, or NiFeX, that is typically electroplated onto the substrate 25. After an insulating **layer** is deposited on the bottom shield, the **magnetoresistive** read element 210 is formed and photolithographically patterned. The **magnetoresistive** reading element 210 can include **layers** of soft, hard, and antiferromagnetic **layers** , such as 0) Fe304, NiCo, CoPt, exchange coupled Fe304 and Fe, or soft biased Permalloy **layers** ; (ii) non-magnetic insulative separator **layers** , such as SCHOTT glass; and ON) **magnetoresistive** **layers** comprising Permalloy. Each of the **layers** is typically from about 50 to about 20,000 Athick. Conductors of **copper** , **gold** , or aluminum, (not shown) are formed on the **magnetoresistive** **layer** by electroplating or evaporation through a resist mask to form electrically interconnects to the **layers** . A more highly magnetically permeable **layer** , such as a Permalloy or CoFeX **layer** , serves as a second upper (shared) shield 220 covering the **magnetoresistive** element. A non-conductive, magnetically inert **layer** such as alumina, silica, silicon nitride or silicon oxide, is deposited on the second shield **layer** 220 to serve as the write gap.

The write element 230 of the thin film...

**24/3,K/17 (Item 5 from file: 349)**
DIALOG(R)File 349:PCT FULLTEXT
(c) 2005 WIPO/Univentio. All rts. reserv.

00291974 **Image available**
**MAGNETO-RESISTANCE DEVICE, AND MAGNETIC HEAD EMPLOYING SUCH A DEVICE**
**MAGNETORESISTANCE ET TETE MAGNETIQUE L'UTILISANT**
Patent Applicant/Assignee:
PHILIPS ELECTRONICS N V,
PHILIPS NORDEN AB,
Inventor(s):
GIJS Martinus Adela Maria,
KELLY Paul Joseph,
Patent and Priority Information (Country, Number, Date):
Patent: WO 9510123 A1 19950413
Application: WO 94IB275 19940913 (PCT/WO IB9400275)
Priority Application: AT 093202835 19931006
Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
JP KR AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE
Publication Language: English
Fulltext Word Count: 4130

Fulltext Availability:
Detailed Description

Detailed Description
... Cu, Au, Cr, LiTi204, etc.). However, for a suitable match of materials in the ferromagnetic **layers** and the interposed non-ferromagnetic conductor **layer** , an inventive device comprising such a conductor **layer** can also demonstrate a very large **magneto - resistance** effect.

The invention and its attendant advantages will be further elucidated with the aid of...

**24/3,K/18 (Item 6 from file: 349)**
DIALOG(R)File 349:PCT FULLTEXT
(c) 2005 WIPO/Univentio. All rts. reserv.

00237305 **Image available**
**MAGNETORESISTANT ELEMENT AND MANUFACTURING PROCESS THEREOF**
**ELEMENT MAGNETORESISTANT ET SON PROCEDE DE FABRICATION**
Patent Applicant/Assignee:
NIPPONDENSO CO LTD,
SUZUKI Yasutoshi,
AO Kenichi,
UENOYAMA Hirofumi,
NOGUCHI Hiroki,
EGUCHI Koji,
ITO Ichiro,
YOSHINO Yoshimi,
Inventor(s):
SUZUKI Yasutoshi,
AO Kenichi,
UENOYAMA Hirofumi,
NOGUCHI Hiroki,
EGUCHI Koji,
ITO Ichiro,
YOSHINO Yoshimi,
Patent and Priority Information (Country, Number, Date):
Patent: WO 9311569 A1 19930610
Application: WO 92JP1581 19921203 (PCT/WO JP9201581)
Priority Application: JP 91319444 19911203; JP 9216834 19920131; JP 9271489 19920327; JP 92284683 19921022; JP 92289099 19921027; JP 92314847 19921125
Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
DE US
Publication Language: Japanese

English Abstract
...thin film of the ferromagnetoresistant element and the aluminum wiring metal are connected by another **conductor** metal. As the **conductor** metal, TiW, TiN, Ti, Zr, etc. are preferable. Also, a second aluminum wiring metal is usable, when the **conductor** metal is provided on the upper **layers** side of the thin film of the ferromagnetoresistant element. Further, usable is the surface protective film of a multilayer type, whose lower **layer** side is a film containing no nitrogen, such as a silicon oxide film, and whose...
?